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## ORIGINAL ARTICLES.

### GNORRHEA; ITS DANGERS TO SOCIETY.

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THE object of the article which I have written at the request of the organizing committee of this international conference is to present a brief review of the dangers that are known to result to the human race from gonorrhoeal affections. The impression continues to obtain in non-medical minds that the only venereal disease to be feared is syphilis. It is to contravene this popular notion and to make clear that recent experience and advances in scientific medicine have demonstrated that, for the female sex at least, gonorrhoeal infection brings with it far greater dangers to health and to capacity for work than does even syphilis that the present paper has been written. The dangers of the disease are so much the more to be feared since, during recent years, despite the great advances which have been made in medicine generally, the therapy of gonorrhoea has not developed to a degree that would enable us to give assurances of cure as we can usually promise from the treatment of syphilis.

Unfortunately, it cannot be denied that something of this lack of success in the treatment of gonorrhoea is due to the fact that many physicians retain old prejudices. "It is only a little clap," they say, and they do not demand the same stringent and careful regulation of life as they do when there is a question of syphilis. The old school physicians, moreover, are so wrapt up in old-fogy notions of treatment that they have neglected to give sufficient attention to the modern therapeutics of gonorrhoea, and especially to the prophylaxis of complications.

Gonorrhoea is in all civilized countries an extremely widespread disease. It is, perhaps, with the exception of measles, the commonest of the infectious diseases. The exact statistics as to its occurrence are not easy to obtain, since most of the cases of gonorrhoea, even when they do come to medical men for treatment, and are not treated by quacks, apothecaries, and sympathetic companions in misery, form a part of the private practise of physicians.

Proportionately only a very small number of those who suffer from the disease come to hospitals, from which, of course, statistics are obtained. Especially incomplete are the statistics

of the occurrence of gonorrhoea in women. In most of the cases the early stage of infection in the female is either not noticed by the patients themselves or is falsely interpreted, and so escapes medical handling, and thus affords no statistical material. In all the stages of the infection, after the first acute inflammatory reaction has passed, the symptoms are so slight that recognition of the disease is nearly always impossible, unless, indeed, serious affections of the internal genital organs have already declared themselves.

It remains, then, to give a summary of the statistics such as can be obtained from hospital reports and the like. Naturally the numbers are much below the true incidents of gonorrhoea even among the lower classes from which the patients of our local public institutions are mainly recruited. A good approximate idea of the prevalence of the disease is furnished by the statistics of the cases of gonorrhoea in the various armies. We have here, on the one hand, a large number of men of about the same age, who live under almost similar circumstances and in whom the most careful inspection succeeds in bringing without doubt the very largest part of venereal diseases to treatment and statistical tabulation. As to the differences in the prevalence of the disease in various armies I have nothing to say here.

	Total No. of Soldiers.			Gonorrhea—Absolute Number.		
	1891-92	1892-93	1893-94	1891-92	1892-93	1893-94
German Army ....	434,680	439,161	467,333	7,200	7,511	8,364
Austrian Army ....	264,743	269,460	298,035	9,150	8,598	8,838
Belgian Army ....	43,184	44,549	47,045	912	920	995
French Army .....	474,067	464,776	467,781	14,848	14,544	14,865

	Gonorrhea—Per Capita Percentage.			Gonorrhea—Percentage of whole No. of Venereal Diseases.		
	1891-92	1892-93	1893-94	1891-92	1892-93	1893-94
German Army ....	15.8	15.7	16.6	54.4	53.1	50.5
Austrian Army ....	32.1	29.6	29.5	53.5	51.6	49.0
Belgian Army ....	21.1	20.6	21.1	65.4	63.1	61.3
French Army .....	27.9	27.8	28.3	63.6	63.7	64.7

With reference to the civil population the following statistics seem of interest: During the year 1896 I sent a circular to all physicians practising in Breslau, and to all the institutions, asking that an account be kept of how many cases of venereal diseases were treated during the course of a single year in Breslau. Precautions were taken that the same patient should not be counted more than once and that patients who were only passing through Breslau should be separated from actual inhabitants of the city. Unfortunately only 81½ per cent. of the physicians to whom circulars were sent furnished replies.

<sup>1</sup> An answer to the second question of the Conference for the Prophylaxis of Venereal Disease, held at Brussels, September, 1899. Translated by Dr. James J. Walsh for the MEDICAL NEWS. All rights reserved.

In spite of this the figures, I think, are not entirely worthless.

Altogether, 7685 persons were reported as suffering from venereal infection or complications of venereal infection. Of these, 6940 lived in Breslau. Of the inhabitants of Breslau, 3284 suffered from gonorrhea. This would make 8.7 per cent. of the population of the city in the year 1896.

This figure naturally does not give a true picture of the actual occurrence of the disease among the population, for one-fifth of the physicians sent no reply. Even if among those who made reports we consider that practically all those who had fresh cases to treat were included, yet, on the other hand, reports of gonorrhea in the female to a very large extent are wanting. This is clear, since of the 3699 reported cases of gonorrhea only 591 were in females. Of these, 238 were prostitutes and 85 were in women whose gonorrhea was only recognized because their newborn children developed gonorrheal ophthalmia. Finally, it must be remembered that the reports only concern such cases as came under treatment during the present year, so that the very large number of cases in which the disease was acquired some time ago, or in which residual complications exist, although they have not come under medical treatment in the present year, are entirely lacking from the statistics. Further evidence of the amount of error can be gathered from the fact that only 85 married women are reported as suffering from the disease, while 398 married men come into the statistics.

The proportion of gonorrhea to other venereal diseases is 47.3 per cent. of the whole number; syphilis represents 42.2 per cent., and soft chancre 10.4 per cent. It is very natural to think that in these statistics it is especially the number of cases of gonorrhea which corresponds least to the actual number, for it is sure that patients with ulcerative or syphilitic lesions come to a medical man much oftener than do those suffering only from gonorrhea. This is true in particular in the female sex.

Practically the same figures as we have for Breslau come to us from Copenhagen. In the year 1894 a special census in this matter was made, physicians being obliged by law to send in an account of all cases they had under treatment. Despite the legal requirements the report was incomplete. There were reported 5835 cases, of which 4159 were gonorrhea, 778 were soft chancre, and 898 syphilis; that is to say, 71.2 per cent. gonorrhea, 13.3 per cent. soft chancre, and 15.4 per cent. syphilis. The student body, unfortunately, makes a special group of the population, distinct from the rest by the frequent occurrence of the disease. Out of 2140 students, 216 in the course of the year suffered from venereal disease. Of these, 147 had gonorrhea, 26 soft chancre, and 43 syphilis.

We owe it to Noeggerath for having shown how prevalent is gonorrhea in the female sex

and how serious its consequences may be. As has been said, it is here that statistics are most imperfect. By reason of the number of suspicious cases that occur in large public polyclinics it is impossible for the busy gynecologist to make a serious investigation in every case in order to obtain proof that gonococci are present. If the clinical symptoms alone are considered the number will, in my opinion, always be too high. This source of error will, however, be more than compensated for by the number of cases which are passed over either because their symptoms are too slight to call for medical attention, or because the manifestations of the disease are not sufficiently clear to suggest a careful examination. Saenger, out of his entire gynecological material, considers that 12 per cent. suffer from gonorrhea. Robert Asch found 14 per cent. Zweifel, in his private practise, found 10 per cent. These figures, it seems to me, are calculated to give a rather correct idea of the significance of gonorrhea as a disease of the female sex. Until the last decade or two, we were accustomed to consider the disease as not having any very serious importance in spite of our knowledge of its wide prevalence. It was looked upon rather as an annoying disorder which, because of certain painful complications, not infrequently became a distressing affection. It is only the work of the last two decades which has made the significance of gonorrheal infection clear. A large number of serious affections, some of which are followed by irremediable sequelæ, the cause of which was heretofore entirely unknown, are now recognized to be gonorrheal in origin. This is especially true of the disease in women. We now know for the first time how serious the danger is to the general population from the terrible prevalence of this infectious disease.

The following circumstances make gonorrhea a serious and often dangerous disease:

1. The affection does not remain limited to the primary focus of infection in the mucous membrane of the anterior urethra of the man, or the urethra or cervix of the woman, but progressively invades other parts. (a) Its first advance is to higher portions of the urinary tract; the neck of the bladder, the bladder itself, the ureter, and the pelvis of the kidney. The acute affections of these organs lead frequently to painful and often to febrile conditions which keep the patient in bed. Chronic conditions often develop, whose frequent and ever-recurring attacks of pain with frequent exacerbation lay the foundation for serious nervous disturbances of many kinds. (b) The next point of attack is the genital tract, and the disease advances along this. An acute purulent or chronic inflammation of the prostate, and then seminal vesiculitis or inflammation of the vas deferens and of the epididymus occurs. The affection of the prostate usually causes no immediate disturbance of the genital function. The chronic form, however, affects the potentia coeundi injuriously, causing inefficient erection, precocious ejaculation, and

irritable weakness of the genital functions generally, by setting up local nervous disturbances and neurasthenia. It is possible also that alteration in the prostatic secretion may interfere with the motility and consequently with the potency of the spermatozoa.

If the gonorrhea attacks the prostate direct treatment becomes impossible. This localization of the disease takes on a very special interest in its relation to that important question whether absolutely incurable cases do not exist; that is to say, cases which remain persistently infectious despite all treatment. This question, to my mind, unfortunately must be answered in the affirmative. Affections of the vas deferens and of the epididymus are of more importance, as it is by means of these that the largest number of cases of impotence are occasioned. Notwithstanding perfectly normal functioning of the testicle, the inflammation so closes up the epididymus, the vas deferens, and the seminal vesicles, that in a large number of cases it produces an absolute mechanical hindrance to the progress from the testicle to the urethra. In spite of perfect potentia coeundi, a man with double gonorrheal affection of the seminal conducting apparatus is frequently sterile. Gonorrheal affections of the epididymus are therefore not only extremely annoying affections, lasting for a week or two, but may be most serious complications which absolutely prevent procreation.

In the woman gonorrhea advances from the mucous membrane of the cervical canal to the internal genitalia, and the whole internal apparatus, the uterus, the tubes and ovaries, and the peritoneum may become infected. The various affections that are thus caused may be briefly mentioned. The primary infection of the cervical canal usually gives no subjective symptoms. For this reason innumerable women are absolutely ignorant of the fact that they have been infected or that they carry with them a disease that may be communicated to others. The swelling and catarrhal inflammation of the cervical mucosa may present a mechanical hindrance to the entrance of spermatozoa into the uterus. Very subjective symptoms either in the form of persistent pain or in the form of recurring attacks of pain especially at the menstrual period may be caused by endometritis. Apart from the serious dysmenorrhea itself, this affection is a frequent cause of sterility. The implantation of the impregnated ovum is hindered, or after its implantation, abortion occurs. Should pregnancy continue to term, the endometritis is frequently a cause of dangerous bleeding. Puerperal infection often results and this in turn may produce persistent incapacity for all future conception, and may lead to what is called one-child sterility.

Should the infection reach the tubes an acute febrile affection with severe attacks of pain, combined with tumor-like swellings of the tube (salpingitis), occurs, which even in the most favorable cases keeps the patient in bed for weeks, and requires most careful treatment. Even after this

the condition usually is not entirely cured, but leads to chronic persistent ill health with frequent acute exacerbations. These recurring acute attacks often become dangerous to life, so that operative interference and removal of the collections of pus by laparotomy becomes inevitable. Fatal peritonitis may result from gonorrheal salpingitis. When both tubes are affected there is every prospect of lasting sterility.

The most frequent and severe disturbances of health—they are also the most dangerous—arise from the extension of the inflammatory process from the uterine mucosa directly or through the tubes to the peritoneal surfaces of the ovaries. The peritoneal affections which result from this extension cause disturbances of menstruation, colic-like attacks of pain, and neurasthenic complications and sequelæ. Such occupy the attention of the gynecologist and every year bring to our watering-places an army of women suffering from pelvic disease. This constitutes the most serious result of gonorrhea in the female, and often leads to complete invalidism for years. These peritoneal affections, by causing mechanical disturbances in the position of the uterus and inflammatory adhesions of the uterus and its adnexa, may also be a fruitful cause of sterility.

The dangers we have pictured to which every woman infected with gonorrhea is liable are very much increased during the puerperium. At this time the extension of the gonorrheal process to the internal sexual organs is extremely easy. All of the complications of ascending gonorrhea that have been mentioned, especially "single-child sterility," are greatly favored.

The saddest feature in this whole picture of gonorrhea, the details of which we cannot stop to enumerate, is that once the infection has gained a foothold in the uterine mucosa, there is scarcely any medical treatment that is of any service. In spite of every effort that has been made to destroy the gonococci, most gynecologists have reached the conclusion that the surest and best hope for ultimate cure is to spare the woman as much as possible and provide her, as far as practicable, with absolute rest. Very naturally, however, it is just those women who most need their health and capacity for work—the women of the poorer classes—who are least able to follow the prescriptions of absolute rest in bed for weeks, perhaps months. As a consequence there develops among this class of patients those severe and often dangerous conditions which necessitate operations. Such operations are indicated not only from a purely medical standpoint but also from a humane and social point of view, since the operative removal of the diseased tissues will most surely and soonest lead to health and the ability to resume work. A double operation causes sterility, but this is not a consequence that is usually considered of any very serious importance.

2. The affection does not limit itself to the superficial mucous membrane, although this is



not the most often affected, but gives rise to other affections. (a) These affections result either from toxic products of the gonococcus producing effects at a distance from the original focus of infection, or from localized abscesses in the neighborhood of the urethra, which lead to the formation of cicatricial tissue in the neighborhood of the urethra. These peri-urethral abscesses in the male sometimes cause fistulae or scars in the corpora cavernosa, and these interfere with erectile power, and hence disturb the potentia coeundi. Strictures of the urethra result, which not only disturb the evacuation of urine, but also interfere with the normal seminal evacuation. Frequently, in later years, these strictures cause severe bladder and kidney trouble, and their treatment requires time and expense. Only occasionally is operative interference of any use.

In the woman, suppuration of the Bartholinian glands occurs. This requires treatment with absolute rest in bed for several weeks, and not infrequently gives rise to annoying fistulae, some of which may establish a connection with the rectum and later produce intractable rectal ulcers and strictures. (b) The gonococci may force their way into the connective tissue of the mucous membrane, and then find entrance into the lymph or blood circulatory systems, and so give rise to metastases all over the body. Such an invasion of gonococci gives rise: (1) To arthritic affections, most of which demand treatment for weeks or even months. Such often are subject to distressing repeated relapses during later life, occasioning serious disturbance of function. (2) They may cause affections of the cutaneous connective tissue of the glands or purulent affections of the tendon sheaths. (3) They may cause serious affections of the heart and the blood-vessels, endocarditis, pericarditis, phlebitis, etc. (4) They may even give rise to systemic intoxication through toxins produced by the gonococci, and so occasion cachexia and affections of the central and peripheral nervous system, or various erythematous, hemorrhagic, or hyperkeratitic forms of skin disease; or they may cause serious disturbances of the organs of the special senses; conjunctivitis, iritis, optic neuritis, etc. (5) Gonorrhea of the genital organs acquired by sexual intercourse is often the source of other localizations of the disease, which, for their part, cause severe systemic disturbances.

(a) *Gonorrhea of the Conjunctiva*.—Besides the comparatively rare infections of this kind in adults it is well-known how frequent is blenor-rhea neonatorum. This affection is caused in the majority of cases by the infection of the child during labor with the gonococci, which are present in the mother's genital canal. In a goodly proportion of the cases it leads to loss of the infected eye, and when the affection occurs on both sides, is a frequent cause of total blindness.

(b) *Gonorrhea of the Mucous Membrane and the Rectum*.—This affection occurs mostly in women as a consequence of the infection of the

rectal mucosa by secretions flowing down from the genitalia. Ulcerative lesions and purulent conditions of the connective tissue around the rectum are sequels which eventually cause stricture, and thus induce permanent invalidism. Sometimes in men and boys, as well as in women, direct infection of the rectum takes place through anal coitus.

(c) *Gonorrhea of the Oral Mucous Membrane*.—This occurs very seldom and has not much significance.

Very naturally no exact statistics exist as to the frequency of these complications, sequelae, and metastases, nor of their proportion to the number of infections. There are many reasons for this: (1) In many cases the true character of the arthritic and heart affections is not recognized; they are not considered the sequelae of a preceding gonorrhea; (2) these severer forms of gonorrheal affections come much more frequently under medical treatment, and especially enter oftener into the statistics of hospitals, clinics, and so forth, than does uncomplicated gonorrhea. All of our reports in this matter are therefore either too low or too high. One thing alone is certain, and that is that thousands and even tens of thousands of people, men and women, are to be found in every civilized country whose health has been seriously undermined, whose capacity for work greatly lessened, and who owe their state of chronic invalidism to gonorrhea.

I limit myself here to a few statistics which seem to give an approximate idea of the frequency and significance of gonorrheal complications. The statistics of the Breslau physicians gave, out of 3699 cases of gonorrhea, 1002 complications, as follows: Cystitis, 356; epididymitis, 269; prostatitis, 85; strictures, 69; Bartholinitis, 67; vulvitis and vaginitis, 78; affections of the adnexa, 49, and arthritis, 29. The following tables bring together a number of individual statistics as to gonorrhea in the male. The first contains 28,787 cases, in which there were 27.1 per cent. of epididymitis and 17.8 per cent. of all other complications. A second table contains 256,261 cases of gonorrhea with 14.8 per cent. of epididymitis. Both together give 16.11 per cent. of epididymitis in 285,048 cases of gonorrhea. A glance at the totals, as well as the details of these cases, shows how little such percentages are to be depended on. While the average occurrence of epididymitis is 16.1 per cent. the number of cases of this complication in individual statistics varies between 3.5 per cent. and 39.3 per cent. It is clear that these variations depend upon the differences of the material that came under the observation of the different reporters. In clinics and hospitals the admissions of cases of epididymitis will very naturally be disproportionately high in comparison with the statistics of polyclinics and out-patient dispensaries, while the last will be very much higher than the statistics gathered from private practise. The best average, it seems to me, can be gathered from the reports of the Breslau physi-



cians. Since we have in these all the sources of error combined to more or less neutralize one another. The Breslau statistics give 8.89 per cent. of epididymitis.

Unfortunately there is one factor which has not been sufficiently reckoned with in making up the statistics, namely, the method of treating uncomplicated gonorrhea. It is surely beyond doubt that frequency of complications depends on the method of treatment and can, therefore, be very much lessened if a proper method of treating gonorrhea is instituted as soon as it makes its appearance. With reference to the complications of gonorrhea in the female we have insisted on the importance of these before. It is rather shocking, then, to learn that Saenger finds that not less than 50 per cent. of the women who come to him with gonorrhea develop severe complications, while Schultz and others report 33.3 per cent. Herzfeld found 18 per cent. of gonorrheal adnexa affections in the whole gynecological material of Schauta's polyclinic; Lier-Ascher reports 31 cases of urethritis and endometritis and 68 cases of tubal affections in 95 women suffering from gonorrhea. In my opinion these figures are too high, since we have not included in them the simple gonorrheal infections without complications. I am of the opinion that Bumm is more nearly right when he places the proportion at 14 per cent. of uterine complications and 3.6 per cent. of tubal complications in gonorrhea.

A special mention and word of warning is due to gonorrheal arthritis, because of its frequency, its slow-running course, and tendency to relapses, with ankylosis and disability. At times even suppuration of the joints results and constitutes it a very serious affection for the working classes. Gerhardt found in 928 cases of arthritis that 7.43 per cent. were gonorrheal in origin. In 4423 cases of gonorrhea Gricolle found 68 cases of arthritis (1 in 6.5). Koenig found in two years in his surgical clinic at Berlin no less than 56 cases of gonorrheal arthritis. Of these 56 cases, 38 were in women, which is a striking bit of evidence of the extreme frequency of gonorrhea in the female, since it often remains entirely unnoticed. Rindfleisch, in Bergmann's clinic in Berlin, found in one year 19 cases of gonorrheal arthritis.

(To be continued.)

**EXPERIMENTAL TESTS AT VERA CRUZ, MEXICO, OF THE DOTY-FITZPATRICK SERUM FOR THE PREVENTION AND CURE OF YELLOW FEVER.**

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THROUGH the kindness of Dr. Edward Liceaga, President of the Board of Health of Mexico, I was commissioned to assist Dr. Barnard E.

Baker, deputy of Dr. Alva H. Doty, Health Officer of the Port of New York, in the bacteriological experiments and investigations made at Vera Cruz with the serum obtained from the Health Department of the City of New York.

Before speaking of the results it seems advisable to me to explain the experiments and the technic employed in obtaining the serum that was expected to be curative and preventive of yellow fever.

According to Dr. Charles B. Fitzpatrick, director of the bacteriological laboratories of the New York Health Department,<sup>1</sup> the advantages of the serum treatment in yellow fever were very manifest, and it was, therefore, with the view of obtaining a serum for the treatment of this disease that a series of experiments were begun in the laboratories of the department by Dr. Alva H. Doty.

The work, preliminary to the preparation of the serum, was to obtain pure cultures of the micro-organism that bears an etiological relation to the disease. In March, 1897, he isolated a micro-organism from the blood of three cases of yellow fever which he described as *bacillus coli icteroides*, regarding it as a special and virulent form of the *bacterium coli commune*. Comparisons made afterward with the *bacillus icteroides* sent by Sanarelli led him to conclude that these two organisms were practically the same, and their pathogenic powers convinced him that they bore an etiological relation to yellow fever, notwithstanding their intimate connections with the *bacillus coli commune*. The methods employed in the immunization of the animals with the *bacillus icteroides* were essentially the same as those the author used to obtain the diphtheria antitoxin serum, and the cultures used to produce the toxins with which animals were inoculated were the cultures of the *bacillus icteroides* which Dr. Sanarelli sent to the health officer's department. Two horses were selected for immunization in order to obtain from their blood the preventive and curative serum. The injection fluids were composed of the living cultures or the filtered cultures. The cultures were allowed to grow at 37° C. (98.6° F.) for about twenty-five days and then filtered; the filtrate contained a toxin of varying strength.

The intrajugular injection of two or three hundred cubic centimeters of the toxin generally caused a temperature reaction of two degrees C. in a horse that had previously undergone the process of immunization for fifteen months. Subcutaneous injections of the living cultures were not well tolerated and caused extensive necrosis of the tissues. The toxin injections were better tolerated but were not so satisfactory as the intravenous injections of the filtered toxins. The necrosis of the subcutaneous tissues resulting from extravasations of intravenous and subcutaneous injections was so extensive that it resulted in the death of one of the horses. The

<sup>1</sup> Report to the Board of Health, Mexico.

<sup>1</sup> "Notes on the Treatment of Yellow Fever with the Blood-serum of the *Bacillus Icteroides*," Medical Record, July 1, 1899.

virulence of the culture used has varied. The original culture sent to the laboratory by Dr. Sanarelli, when injected in doses of  $\frac{1}{2}$  c.c. or more, intraperitoneally, caused the death of a guinea-pig weighing 300 grams in about seven days. On increasing the virulence of the culture so that the subcutaneous injection of  $\frac{1}{2}$  c.c. caused death, the results were as follows: (1) Guinea-pig, weight 235 grams, inoculated subcutaneously with 1 c.c., died in six days. (2) Guinea-pig, weight 235 grams, inoculated subcutaneously with 2 c.c., died in three and one-half days. (3) Guinea-pig, weight 260 grams, inoculated subcutaneously with 3 c.c., died in two and one-half days.

"It may readily be seen from the above," says the author, "that the culture does not cause in guinea-pigs a disease with a definite cycle or an infection which has a definite period of incubation and development. The intensity of the infection depends upon the dose. With a similar dose death takes place in some cases as late as nineteen days after the injection. The character of reaction in horses has been that of a direct rise of temperature within twenty-four hours and a fall to about normal within the next twenty-four hours. Subcutaneous injections and extravasations from the veins caused a more gradual descent, or a fall followed by a rise." The horse which lived was first injected in January, 1898, and was methodically injected, at the proper intervals, until June 15, 1899. The blood-serum of this horse first began to show therapeutic properties on October 18, 1898. The serum of that date was effective to the extent that when the guinea-pigs were inoculated with a fatal dose of culture of the bacillus icteroides, two of which had twelve hours previously received an injection of the blood-serum, the two remained alive two and three days longer than the remaining guinea-pig which had not received the serum treatment.

1. Guinea-pig, weight 245 grams, received a subcutaneous injection of 2 c.c. of serum November 6, 1898, and twelve hours later was inoculated with a fatal dose of the culture. Died November 14, 1898.

2. Guinea-pig, weight 255 grams, received a subcutaneous injection of 1 c.c. serum November 6, 1898, and twelve hours later was inoculated with a fatal dose of the culture. Died November 15, 1898.

3. Guinea-pig, weight 255 grams, received no injection of the serum and was inoculated November 6, 1898, at 9 P. M. as above. Died November 12, 1898.

The succeeding experiments gave varying results. A much stronger serum was obtained, however, on May 2, 1899. Fourteen cubic centimeters of this, when injected into a guinea-pig, which was at the same time injected with a fatal dose of the culture, cured the animal so injected. If it had not received the serum injection, it would surely have died, as was proved by the death of another and larger guinea-pig that was injected with a fatal dose of the culture

at the same time, and under exactly the same conditions as the one treated and cured by the serum. The one which died eighteen days after the inoculation, although a larger and much stronger animal than that which was cured, was treated in every way the same as the cured one with the single difference that the one that died did not receive any injection of the serum. A smaller dose of the serum (10 c.c.) succeeded in preventing the infection in a guinea-pig injected with a fatal dose of the bacillus icteroides, twenty-four hours later. The control guinea-pig which was inoculated at the same time and which had received no serum, died in nine days. Both the guinea-pig that was cured and the one in which the infection was prevented have remained alive and well over a month since the death of the animals which received no treatment with the serum.

#### *Examples Showing the Preventative and Curative Action of Serum.*

1. Guinea-pig, weight 350 grams, received 14 c.c. serum at 4 P. M., May 3, 1899; one hour afterward it received 3 c.c. of culture. It has remained alive and well. A control guinea-pig, weight 390 grams, received no serum but was inoculated with 3 c.c. of the same culture as the above. It died May 21, 1899.

2. Guinea-pig, weight 330 grams, received 10 c.c. of serum at 4 P. M., May 3, 1899, and twenty-four hours afterward was inoculated with 3 c.c. of the culture. It has remained alive and well. A control guinea-pig, weight 330 grams, received no serum as above, but was inoculated with 3 c.c. of the same culture. It died May 12, 1899.

Serum obtained May 31st has also shown about the same strength as the serum obtained on May 2d. Ten cubic centimeters of the serum were sufficient to prevent infection and death in a guinea-pig 300 grams in weight, although a much heavier guinea-pig, 372 grams in weight, inoculated at the same time and which received no serum treatment died on June 16th.

The serum, so prepared, concludes the author, compared by a series of experiments with the serum obtained from the laboratory of Dr. Sanarelli, in Montevideo, Uruguay, has given more uniform results than the South-American serum.

#### *Injections Made with the Curative Serum at Vera Cruz.*

*Case I.*—Manuel Rodrigues, thirty-five years of age, native of Hidalgo, has been in Vera Cruz two months, entered the Military Hospital July 10, 1899, at 4 P. M. Disease began on July 9th at 11 A. M. with chills, headache, and pains in the back. He did not feel pain in the stomach and did not vomit. At the present time, July 11th, the conditions are as follows: Sandy tongue, slightly reddish at the tip and edges, eyes bloodshot, gums reddish and somewhat swollen, urine albuminous. His temperature on the day of entrance, 39.3° C. (102.6° F.); to-day at 8

A. M., 39.5° C. (103.1° F.); pulse 92, regular and strong, no vomiting. At 9:40 A. M. he received an intravenous injection of 15 c.c. serum; temperature immediately after injections 39.4° C.; pulse 80; the patient did not suffer pain. At 10:40 A. M. temperature 39.4° C. (103° F.); pulse 80; 2:30 P. M., temperature 40° C. (104° F.), pulse 76; 6 P. M., temperature 39.5° C. (103.1° F.), pulse 76.

July 12th: Headache, eyes still bloodshot and slightly jaundiced; albumin in urine in larger quantity than yesterday, above 25 per cent. At 8:30 A. M. he received an intravenous injection of 20 c.c. serum, and another subcutaneous injection of 10 c.c. Temperature and pulse were as follows: 7:30 A. M., temperature 39.3° C. (102.6° F.), pulse 64; 7:20 P. M., temperature 39.6° C. (103.3° F.), pulse 72. The same conditions prevailed during the day with the exception of the febrile reaction, caused by the injections. Pulse very weak; nausea, without vomiting.

July 13th: Same condition, slight headache, jaundice of the eyes, albumin in the urine in the same proportions as day before; no delirium. Temperature and pulse as follows: At 8 A. M., temperature 39° C. (102.2° F.), pulse 64; 5:30 P. M., temperature 39.3° (102.6° F.), pulse 72; an adynamic condition; pulse very weak; no vomiting; urine albuminous; he was not given an injection.

July 14th: Pulse very weak; adynamic condition more marked, gums more reddish and swollen; no vomiting, nor pain in the stomach; a great deal of albumin in the urine. Temperature and pulse: At 8 A. M., temperature 38.6° C. (101.4° F.), pulse 72; 12 M., temperature 38.5° C. (101.2° F.), pulse 76. He received four subcutaneous injections of 15 c.c. each at 12, 3, 6 and 9 P. M.; 6 P. M., temperature 38.8° C. (101.8° F.), pulse 84.

July 15th: He had some vomiting of mucus; prostrated condition; tongue red and dry; eyes jaundiced; albumin in the urine, about 15 per cent.; pain in the regions injected. Temperature and pulse: At 6 A. M., temperature 37.7° C. (99.9° F.), pulse 80; 6 P. M., temperature 38.4° C. (101° F.), pulse 87. He received three subcutaneous injections, each of 15 c.c. of serum, at 1:30, 4:30, and 7:30 P. M.

July 16th: He continued during the preceding evening in the same condition of depression, and during the night had hiccough, and involuntary urination and defecation. At 8 A. M. very grave condition; weak pulse; dry tongue; hemorrhage from the left ear; gums much swollen but not bleeding; jaundiced condition pronounced; hiccough and dorsal decubitus; flies on the face and hands of the patient. Temperature and pulse: At 8 A. M., temperature 38° C. (100.4° F.), pulse 72; 12 M., 37.4° C. (99.5° F.), pulse 80; 6 P. M., temperature 38° C. (100.4° F.), pulse 80. No injection of serum as the case appeared very desperate.

July 17th: Same conditions; hiccough ceased; albumin in urine, 10 per cent. Temperature and

pulse: At 7 A. M., temperature 37.8° C. (100° F.), pulse 72; 4 P. M., temperature 38° C., pulse 70; 6 P. M., temperature 37.5° C. (99.5° F.), pulse 78.

July 18th: Hiccough returned, although the general condition is not so bad; moist tongue; albumin 15 per cent.; icterus excessive in the eyes; no vomiting. July 19th: Normal temperature; out of danger and on the road to recovery.

*Case II.*—Rafael Veloz, thirty-six years of age, nurse in the Military Hospital of Vera Cruz. He arrived eleven days ago in Vera Cruz from the City of Mexico. He became ill on July 10th at 4 P. M. Had chills and fever; headache and pain in the back; pain in the stomach and vomiting. At 9 A. M. on the 11th his condition was as follows: Face and eyes bloodshot; tongue coated, red at the tip and on the edges; copious vomiting of mucus; tenderness in the stomach; headache; pain in the back; gums injected; no albumin in the urine. At 9 A. M. he received an intravenous injection of 20 c.c. of serum obtained on May 31, 1899, and a subcutaneous injection of 10 c.c. of the same serum. Temperature and pulse: At 8 A. M., temperature 39.8° C. (103.6° F.), pulse 108; injection; 2:30 P. M., temperature 40.4° C. (104.7° F.), pulse 108; 6 P. M., temperature 39.8° C. (103.6° F.), pulse 110; 9 P. M., temperature 39.8° C. (103.6° F.), pulse 108. In the evening the same conditions prevailed; frequent vomiting; albumin in the urine about 25 per cent.

July 12th: Same condition. Vomiting and tenderness in the stomach; headache; pain in the back; slight icterus in the eyes; very rough tongue; gums very red; pain in the pectoral regions, where he received the subcutaneous injection. At 7:45 A. M. he received an intravenous injection of 20 c.c. of serum and a subcutaneous injection of 15 c.c. of the same serum. Temperature and pulse: at 7:30 P. M., temperature 39° C. (102.4° F.), pulse 88; 11 A. M., temperature 39° C. (102.2° F.), pulse 86; 7:20 P. M., 38° C. (101.8° F.), pulse 80; in the evening no change; very albuminous urine.

July 13th: Great tenderness in the gastro-hepatic region; albumin and biliary pigment in the urine; eyes jaundiced. No injection of serum was given. Temperature and pulse: At 8 A. M., temperature 38.4° C. (101.1° F.), pulse 88; 12 M., temperature 39.4° (102.9° F.), pulse 88; 5:30 P. M., temperature 38.3° C. (101.1° F.), pulse, 88; in the evening same condition.

July 14th: No range in his condition; albumin in the urine about 20 per cent. He received three subcutaneous injections, each of 15 c.c. of serum, at 12:30, 4:30, and 8:30 P. M. Temperature and pulse: At 6 A. M., temperature 39.3° C. (102.7° F.), pulse 90; 6 P. M., temperature 39.4° C., pulse 92. In the evening vomited black matter.

July 15th: No more vomiting. Great pain in the region where he received the subcutaneous injections; icterus more pronounced; bilious and albuminous urine. He received three subcutaneous injections, each of 15 c.c. of serum, at



1:30, 4:30, and 7:30 P. M. Temperature and pulse: At 6 A. M., temperature 38.7° C. (101.6° F.), pulse 100; 12 M., temperature 38.6° C. (101.5° F.), pulse 90; 4 P. M., 39.4° C. (102.9° F.), pulse 98.

July 16th: Same condition; bleeding from the gums; restlessness; albumin in urine about 15 per cent. Temperature and pulse: At 6 A. M., temperature 38.4° C. (101.1° F.), pulse 90; 4 P. M., temperature 38.1° C. (100.6° F.), pulse 88.

July 17th: Condition very grave; gums bleeding; no more vomiting; pain in the stomach and in the places injected. On account of the grave condition of the patient he received no further injections.

July 18th: Condition extremely grave; restless; complaining; blood in the mouth; scanty and albuminous urine. Patient died at 12:15 P. M.

*Autopsy.*—At 1 P. M. Body very yellow (icterus post-mortem). Hypostatic spots in the neck and in the back; cellular tissue very yellow; blood in the mouth; liver slightly enlarged and yellow, resembling a nutmeg liver. On sectioning the tissue it did not bleed and appeared in an advanced stage of fatty degeneration; spleen normal in shape, blackish, in a state of very intense congestion; tissue much altered, tears away easily; lungs normal; mucous membrane of stomach congested and hemorrhagic in spots; the stomach contained the characteristic black blood; kidneys congested, on sectioning, hyperemic, with yellow spots of fatty degeneration. Intestines in same condition as the stomach. Bladder contained a little urine.

*Case III.*—Juan Vega, Eighth Infantry, living in the Ulna Prison. He arrived at Vera Cruz three months ago from Chilpanango (Guenro State). He was taken ill on the 11th of July, in the afternoon, with chills, headache, and pain in the back; no vomiting.

July 14th: Same conditions and some pain in the stomach. Since the 13th albumin had been found in the urine. Temperature and pulse: July 11th, in the evening, 38° C. (100.4° F.); July 12th, in the morning, 37.5° C. (99.5° F.); P. M., 40° C. (104° F.); July 13th, 11 A. M., 39.5° C. (103.1° F.), pulse 96; 12:30 P. M., 39.1° C. (102.4° F.), pulse 96; 7:30 P. M., 39.3° C. (102.6° F.), pulse 96. At 10:30 A. M. he received a subcutaneous injection of 30 c.c. of serum, and another injection every four hours of the same quantity; that is to say, 90 c.c. in the daytime.

July 14th: Same condition. Eyes injected and slightly jaundiced; tongue coated and red at tip; swollen gums, and pain in the stomach; very frequent mucus vomiting; albumin in the urine, about 15 per cent.; at 6 A. M., bloody stools. He received four subcutaneous injections at 10:30 A. M., 30 c.c. of serum; at 1:30 P. M., 20 c.c. of serum; at 4:30, 20 c.c. of serum; and at 7:30, 20 c.c. of serum. Temperature and

pulse: 6 A. M., 39.1° C. (102.4° F.), pulse 96; 10:30 A. M., 38.5° C. (101.3° F.), pulse 104; 1:30 P. M., 39° C. (102.2° F.), pulse 108; 7:30 P. M., 38.7° C. (101.6° F.), pulse 106. Condition very grave during night-time. Delirium and hic-cough.

July 15th: Convulsions; eyes jaundiced; pain in the stomach; swollen gums; albumin in the urine, about 60 per cent. Shortly before death there was the characteristic black vomit. Temperature and pulse: 6 A. M., 37.5° C. (99.5° F.), pulse 108; 3 P. M., 37.1° C. (98.8° F.), pulse 112.

*Autopsy.*—The body was rigid and very yellow; black blood in the mouth; hemorrhagic focus in the place of the first injection; liver of normal size and of color of dead leaves. A section of the liver showed fatty degeneration; the spleen was normal in size, softened, and dark in color; the kidneys were enlarged, hyperemic, and in some points there was fatty degeneration of the renal epithelium; no urine in the bladder; lungs show congestion at the base; the heart was found to be very pale, but apparently of normal size and condition; the stomach was very much congested, showed some hemorrhagic spots in the mucous membrane; the intestines presented similar changes.

*Case IV.*—Amelio Canales, twenty-five years of age, Eighth Infantry at Ulna. He arrived at Vera Cruz eight months ago from Puebla. He was taken ill on the 12th of July in the afternoon, with chills, pain in the back and headache, pain in the stomach, and vomiting of food and drinks. Same condition on July 13th; tongue coated and red at the tip; gums swollen and epigastric tenderness. Temperature July 12th, in the morning, 40° C. (104° F.); in the evening, 39° C. (102.2° F.); temperature of July 13th, in the morning, 38° C. (100.4° F.); in the evening, 39° C. (102.2° F.); July 14th, same condition; headache; pain in the back; albumin in the urine; conjunctivæ much bloodshot. He received four subcutaneous injections each of 30 c.c. of serum, at 11:30, 3:30, 7:30, and 11:30 P. M. Temperature and pulse: 6 A. M., 39.5° C. (103.1° F.), pulse 80; 11:30, 39.5° C. (103.1° F.), pulse 84; 7:30 P. M., 39.1° C. (102.2° F.), pulse 92; 11:30 P. M., 37.5° C. (99.5° F.), pulse 86.

July 15th: Same conditions; swollen gums; no icterus; some pain in the stomach; bilious stools; very little albumin in the urine, about 5 per cent. He received four subcutaneous injections of 30 c.c. each of serum, at 9:30, 1:30, 5:30, and 9:30 P. M. Temperature and pulse: 6 A. M., 38.9° C. (102° F.), pulse 98; 9:30 A. M., 38.5° C. (101.3° F.), pulse 86; 1:30 P. M., 39.3° C. (102.7° F.), pulse 102; 5:30 P. M., 38.3° C. (101.1° F.), pulse 92; 9:30 P. M., 38° C. (100.4° F.), pulse 90.

July 16th: Eyes slightly jaundiced; gums somewhat swollen; has no vomiting nor headache; very little albumin in the urine. Temperature and pulse: 6 A. M., 38° C. (100.4° F.), pulse 94; 10 A. M., 38.8° C. (101.8° F.), pulse 92; 6 P. M., 39° C. (102.2° F.), pulse 88. July

17th: Eyes jaundiced; recovery began in the morning. Temperature and pulse: 37.5° C. (99.5° F.), and pulse 84. July 18th: Temperature, A. M., 37° C. (98.6° F.), pulse 70; P. M., 36.5° C. (97.7° F.), pulse 66.

July 19th: Temperature, A. M., 36.0° C. (96° F.), pulse 60; gums bleeding a little; eyes still bloodshot and more jaundiced; very little albumin in the urine; convalescence.

*Case V.*—Pedro Hernandez, twenty-three years of age, Twenty-third Infantry. He arrived at Vera Cruz two months ago from Guanajuato; entered the Military Hospital July 10th. He became ill July 18th at 1 o'clock A. M., with slight chills, fever, headache, and pain in the back; without vomiting or pain in the stomach. In the evening the eyes were bloodshot, temperature 39° C. (102° F.), pulse 88. No albumin in the urine; apparently a very slight attack of the disease.

July 19th: At 8 A. M. the temperature was 38.3° C., pulse 64; same conditions; no vomiting; small amount of albumin in the urine; coated tongue; gums injected; no pain in the stomach. He received of serum No. 1, without carbolic acid, obtained on June 30, 1899, four subcutaneous injections as follows: 8 A. M., 30 c.c.; 12 M., 30 c.c.; 4 P. M., 30 c.c.; 8 P. M., 45 c.c.; total amount of serum injected, 135 c.c. in twenty-four hours. Temperature and pulse: 8 A. M., 38° C. (100.4° F.), pulse 64 (first injection); 12 M., 40.3° C. (104.5° F.), pulse 80 (second injection); 4 P. M., same (third injection); 8 P. M., 40.6° C. (105.1° F.), pulse 100 (fourth injection). In the evening the same condition prevailed, save for the reaction caused by the injections of serum.

July 20th: Same condition; no vomiting or pain in the stomach; about 1 per cent. of albumin in the urine; great pain at site of injection. Temperature, pulse, and injections: 8 A. M., 39.4° C. (102.9° F.), pulse 88, injection of 30 c.c. of serum; 12 M., 39.7° C. (103.5° F.), pulse 88, injection of 30 c.c. serum; 4 P. M., 39.7° C. (103.5° F.), pulse 88, injection of 40 c.c. serum; condition same as yesterday.

July 21st: Defervescence and beginning of the second period of the disease. Temperature and pulse: 8 A. M., 38.3° C. (100.9° F.), pulse 80; 12 M., 39.5° C. (103.1° F.), pulse 88; 4 P. M., 38.4° C. (101° F.), pulse 80.

July 22d: Same good condition. Gums reddish; little albumin in the urine. Temperature, 8 A. M., 37.8° C. (100° F.), pulse 80; at 4 P. M., 37.5° C. (99.5° F.), pulse 80; recovered.

*Case VI.*—Harlindo Guevara, twenty-four years of age. He arrived at Vera Cruz six months ago from Puebla, entered the Military Hospital July 25th, in the afternoon. He began to be sick July 24th, with chills, fever, headache, vomiting, and pain in the back and legs. He remained the same during the 25th, and on the 26th presented the following conditions: Eyes injected; gums reddish; tongue coated red at the tip and borders; epistaxis and nausea, and ten-

derness in the epigastrium; albumin in the urine. At 10 A. M. he received two intravenous injections of 21 c.c. and 25 c.c. of serum No. 1, obtained July 3, 1899; total serum injected, 46 c.c. Temperature and pulse: 10 A. M., 39.8° C. (103.7° F.), pulse 108, injection; 12 M., 40.2° C. (104.4° F.), pulse 110; 4 P. M., 40° C. (104° F.), Pulse 120. Intense reaction caused by the serum.

July 27th: Mucus vomiting; eyes injected; swollen gums; epigastric tenderness; headache and great pain in the back; 40 to 50 per cent. albumin in the urine. 8 A. M. subcutaneous injections of 25 c.c. of the same serum. In the evening the same conditions existed with mild conjunctival jaundice. Temperature and pulse: 8 A. M., 39.7° C. (103.5° F.), pulse 88, injection; 10 P. M., 40° C. (104° F.), pulse 116. In the evening reaction caused by the serum less intense than the one observed the day previous with the intravenous injection.

July 28th: Slight remission of temperature, pulse notwithstanding is frequent, indicating internal hemorrhage. In the morning he had a stool with slight traces of black blood; jaundice of eyes marked; vomiting less frequent; epigastric pain less intense; large quantities of albumin in the urine. At 8 A. M. he received one subcutaneous injection of 25 c.c. of serum. Temperature and pulse: 8 A. M., 38.3° C. (100.9° F.), pulse 104, injection; 4 P. M., 39° C. (102° F.), pulse 120. In the evening, black vomit; jaundice marked, and bad general condition.

July 29th: Same condition; extensive jaundice in the face; suppression of urine; gums swollen; pain in the stomach; pulse very weak and rapid; temperature, 8 A. M., 38.4° C. (101.1° F.), pulse 102; 4 P. M., 37.6° C. (99.7° F.), pulse 112. In the evening, condition of collapse; extremities cold. He had one darkly-stained stool, and died at 7 A. M. of the 30th, without convulsions.

*Autopsy.*—One hour after death, rigor mortis well developed, extensive jaundice, black patches in the neck and back, black blood in the mouth. The liver was larger than normal, yellow, and on section showed fatty degeneration. The spleen seemed enlarged, softened, and dark red. The kidneys were enlarged with areas of pyemia and fatty degeneration; the heart normal; yellow serum in pericardium, and congestion at base of lungs; stomach contained quantity of black blood with coffee-ground sediment attached to mucous membrane; mucous membrane of stomach and intestines hemorrhagic in spots though not necrotic.

#### *Injections with the Preventive Toxin.*

The Minister of War, complying with the request of the President of the Board of Health, ordered that the prisoners of the Military Prison at Vera Cruz who were willing should receive injections of the yellow fever preventive toxin. Only two of them availed themselves of the opportunity.

*Case I.*—Enrique Charon, twenty-three years of age, arrived at Vera Cruz eight days ago from Guanajuato. He received on July 19th at 8 A. M., one hypodermic injection of  $\frac{1}{2}$  gram of the preventive toxin. Temperature and pulse: 8 A. M.,  $36.3^{\circ}$  C. ( $97.3^{\circ}$  F.), pulse 64, injection; 8 P. M.,  $37.7^{\circ}$  C. ( $99.9^{\circ}$  F.), pulse 88; a light local general reaction.

July 20th: 8 A. M. he received hypodermic injection of 1 gram of the toxin. Temperature and pulse: 8 A. M.,  $36.7^{\circ}$  C. ( $98.1^{\circ}$  F.), pulse 76, injection; 4 P. M.,  $38.7^{\circ}$  C. ( $101.7^{\circ}$  F.), pulse 76. Local reaction slight; general reaction more marked than before, evidenced by moderate fever with uneasiness and slight headache.

July 21st: 8 A. M. he received one injection of 2 grams of toxin. Temperature and pulse: 8 A. M.,  $37^{\circ}$  C. ( $98.6^{\circ}$  F.), pulse 88, injection; 4 P. M.,  $38.1^{\circ}$  C. ( $100.5^{\circ}$  F.), pulse 96. Feverish reaction moderate, affecting pulse more than temperature; headache slight.

July 22d: No injection; temperature, 8 A. M.,  $37^{\circ}$  C. ( $98.6^{\circ}$  F.), pulse 84; at 4 P. M.,  $36.8^{\circ}$  C. ( $98.3^{\circ}$  F.), pulse 76.

July 23d: 8 A. M., received hypodermic injection of 5 grams of toxin. Temperature and pulse: 8 A. M.,  $36.8^{\circ}$  C. ( $98.3^{\circ}$  F.), pulse 80, injection; 8 P. M.,  $38^{\circ}$  C. ( $100.3^{\circ}$  F.), pulse 82. Moderate reaction, slight chills and headache; no pain in the back and no vomiting.

July 24th: Normal condition; temperature at 8 A. M.,  $37^{\circ}$  C., pulse 90.

*Case II.*—Albert R. Gil, thirty-two years of age. He arrived at Vera Cruz five months ago from Morelia. He received at 8 A. M. of the 19th of July a hypodermic injection of  $\frac{1}{2}$  gram of toxin. Temperature and pulse: 8 A. M.,  $36.4^{\circ}$  C. ( $97.5^{\circ}$  F.), pulse 76, injection; 12 M.,  $36.7^{\circ}$  C. ( $97.9^{\circ}$  F.), pulse 88; 8 P. M.,  $37^{\circ}$  C. ( $98.6^{\circ}$  F.), pulse 80. Local reaction; pain and swelling of the place injected, and a very general moderate reaction.

July 24th: The patient received at 8 A. M. a hypodermic injection of 1 gram of toxin. Temperature and pulse: 8 A. M.,  $36.8^{\circ}$  C. ( $98.3^{\circ}$  F.), pulse 68, injection; 4 P. M.,  $38.4^{\circ}$  C. ( $101.1^{\circ}$  F.), pulse 96. The general reaction was more intense than yesterday, with headache.

July 21st: Received an injection of 2 grams of toxin; temperature and pulse: 8 A. M.,  $36.7^{\circ}$  C. ( $98.1^{\circ}$  F.), pulse 76, injection; 4 P. M.,  $38.9^{\circ}$  C. ( $102^{\circ}$  F.), pulse 100. The feverish reaction was still greater, with headache and uneasiness.

July 22d: No albumin in the urine; no injection; temperature and pulse normal. July 23d: He received at 8 A. M. a hypodermic injection of  $4\frac{1}{2}$  grams of toxin. Temperature and pulse: 8 A. M.,  $37^{\circ}$  C. ( $98.6^{\circ}$  F.), pulse 90, injection; 4 P. M.,  $39.2^{\circ}$  C. ( $102.6^{\circ}$  F.), pulse 108; 8 P. M.,  $38.5^{\circ}$  C. ( $101.3^{\circ}$  F.), pulse 108. The feverish reaction was greater than that before registered, with more uneasiness and headache; no vomiting; no albumin.

July 24th: Normal condition.

While the experiments lasted Charon and Gil

remained at the Military Hospital, and after July 25th they returned to the prison.

I also thought of injection of the toxin in the case of convalescents from yellow fever. In view of the effect of the toxin in the above experiments, made on men who were not immune, I suggested to Dr. Barnard E. Baker that the toxin be tried on men who had been rendered immune by previous attack of the disease, to see whether the reaction observed in the non-immune would differ, especially in the convalescent whose organisms still contained antitoxins. I also thought that in event of the absence of reaction after administering the toxin, there would be proof of the specific character of the bacillus icteroides that secretes the toxin. Nevertheless, Sanarelli demonstrates that the effect of his serum is not due to the existence of antitoxin substances, as in the case of anti-diphtheritic serum, and that dogs, which had been inoculated repeatedly for a year and could stand fatal doses, manifested, nevertheless, at each new injection, symptoms of vomiting, and were in a serious condition. This being the case, the preventive and curative serum of yellow fever, drawn from immune animals inoculated with Sanarelli's bacillus, would, I believe, present an analogy to the serum of typhoid fever, for in this case the preventive and curative action of the serum in animals is not due to the antitoxins, as may be seen from the fact that immune guinea-pigs are more sensible to the action of typhotoxin than the normal animal. This seems to indicate that there is a close analogy between the action of the bacillus icteroides and the pathogenic organism of typhoid fever.

*Case I.*—Donoteo Solis, twenty-six years of age, of the Eighth Infantry, entered the Military Hospital of Vera Cruz on July 21, 1899, sick with yellow fever. On July 25th, at 8 A. M., being convalescent, he received a hypodermic injection of 2 grams of toxin. Temperature and pulse 8 A. M.,  $36.7^{\circ}$  C. ( $98.1^{\circ}$  F.), pulse 64, injection; 12 M.,  $38.8^{\circ}$  C. ( $101.9^{\circ}$  F.), pulse 76; 8 P. M.  $37.9^{\circ}$  C. ( $100.3^{\circ}$  F.), pulse 62. Slight reaction, with little headache and pain in the injected region. At 8 A. M., of the next day, normal conditions.

*Case II.*—Julio Ronzon, of the Eighteenth Infantry, entered on July 13, 1899, sick with yellow fever. At this date, July 25th, after thirteen days of illness, he is recovering. At 8 A. M. he received a hypodermic injection of 1 gram of toxin. Temperature and pulse: 8 A. M.,  $36.6^{\circ}$  C. ( $97.9^{\circ}$  F.), pulse 80, injection; 12 M.,  $37.3^{\circ}$  C. ( $99.1^{\circ}$  F.), pulse 88; 4 P. M.,  $38^{\circ}$  C. ( $100.4^{\circ}$  F.), pulse 84; 8 P. M.,  $37.9^{\circ}$  C. ( $100.3^{\circ}$  F.), pulse 100. Slight reaction; headache and pain in the place injected. Normal condition at 8 A. M. of the next day.

*Case III.*—Antonio Hemandes, sick of yellow fever. Received on the day after his entry a subcutaneous injection of 30 c.c. of serum. In the evening temperature ascended to  $40^{\circ}$  C. ( $104^{\circ}$  F.), and an erythematous eruption appeared, which was mistaken for that of measles. The



later evolution of the disease confirmed the first diagnosis of yellow fever. The eruption was caused by the injection of serum. At 8 A. M. he received an injection of 1 gram of toxin. Temperature and pulse: 8 A. M., 36.8° C. (98.3° F.), pulse 62; injection; 12 M., 37.1° C. (98.8° F.), pulse 56. No reaction.

*Case IV.*—Martin Mirandi, sixteen years of age, Eighth Infantry, entered the Military Hospital on July 10th, 1899, very sick with yellow fever. He arrived in Vera Cruz fifteen days ago from the City of Mexico. July 26th, he received at 8 A. M. an injection of 2 grams of toxin; temperature and pulse: 8 A. M., 36.8° C. (98.3° F.), pulse 72, injection; 4 P. M., 38° C. (100.4° F.), pulse 68; 8 P. M., 37.6° C. (99.7° F.), pulse 60. Moderate reaction, with a little uneasiness and headache; pain in the place injected. At 8 A. M. of the next day was normal condition.

*Case V.*—Cristobal Mejia, twenty-three years of age, of the Twenty-third Infantry, arrived at Vera Cruz three months ago from El Corral. Entered the Military Hospital very sick with yellow fever, recovered on this date, July 26, 1899. He received at 8 A. M. a hypodermic injection of 3 grams of the toxin. Temperature and pulse: 8 A. M., 36.8° C. (98.3° F.), pulse 72, injection; 4 P. M., 39.5° C. (103.1° F.), pulse 92; 8 P. M., 38.4° C. (101.1° F.), pulse 90. Intense feverish reaction; severe headache and pain in the place; no vomiting. At 8 A. M. of the next day normal temperature and pulse.

*Case VI.*—Rodriguez (Case I., page 46). He received, July 26, 1899, at 8 A. M., a hypodermic injection of 3 grams of toxin. Temperature and pulse: 8 A. M., 37.7° C. (99° F.), pulse 60, injection; 4 P. M., 39.2° C. (102.6° F.), pulse 80; 8 P. M., 38.4° C. (101.1° F.), pulse 112. Very intense reaction; dry and hot skin; headache; pain in the region injected. At 8 A. M. of the next day, normal condition. To complete the preceding experiments it should be added that the blood of Guevara (Case VI.) and that of another patient of yellow fever, at the Military Hospital, did not show the agglutinating reaction of Widal in the cultures of Sanarelli's bacillus.

### Conclusions.

1. Both intravenous and subcutaneous injections of the serum produce a general reaction, revealed by the hyperthermia and acceleration of the pulse.
2. The injections, both subcutaneous and intravenous, neither controlled the disease nor manifested in the patient the least reaction upon the appearance, development or duration of the symptoms of yellow fever.
3. It is not possible to form conclusions on the inoculation of the preventive toxin on account of the small number of cases and the short time employed.
4. The reaction caused by the injections of the toxin in the convalescents of yellow fever demonstrates Sanarelli's assertion that the curative

powers of the serum, in animals, is not due to the antitoxin substances; and confirms by its analogy to the typhoid serum the opinion, given by some bacteriologists, that the icteroides is an Eberthiform bacillus.

### REPORT OF A CASE OF SCORBUS IN AN INFANT.<sup>1</sup>

BY WALTER LESTER CARR, M.D.,  
OF NEW YORK.

THIS report of a case of scorbutus in an infant may not present anything that is new, but the history is interesting in its clinical points.

A. H., female, twelve months of age, was brought to me because her mother felt that the baby was failing and that she had rheumatism or some disease that gave her a great deal of pain. The mother was delicate and anemic, with a negative family history. Both mother and father were Americans. An older child was rachitic. The hygienic surroundings were good.

The baby was born in the summer, when the mother was away from home. She was able to nurse the baby for only one week, when cow's milk was tried, but it was vomited and did not agree with the baby. Carnrick's soluble food with cow's milk was tried with fair result for one month, when the food alone was given for four weeks. Mellin's food, Imperial granum, peptonized milk, and kumiss were used for varying periods of three to seven weeks, but as each failed to agree with the baby a change was made. Barley water, with cream and milk-sugar, was tried for four weeks. Occasionally beef-juice was added to the other food. Eskay's food was given for the longest period—five months—but as the baby had diarrhea, with loose, slimy movements, the Carnrick food was administered during the summer. The baby had also bread, butter, and crackers. Occasionally she had a small amount of milk, but it was usually vomited or caused diarrhea. The white of an egg was sometimes the only food that was borne by the stomach. The baby had colic from the time she was six weeks old, and was also restless and uneasy. Dentition began when she was nine months old. She never tried to walk. Bronchitis as the result of an attack of "the grip" gave the baby a great deal of trouble. The mother said that for three weeks the baby had been restless and uneasy, and would cry out as if in pain. She did not sleep well and cried when the clothing was changed or when she was taken up. The movements of the bowels had been offensive, but did not contain blood. There had been no eruption or hemorrhage.

On my approach the baby began to cry, and gave every indication, by her expression, of suffering and fear. She was emaciated, poorly nourished, and weighed only eleven pounds. When the mother took off the clothing the baby showed

<sup>1</sup> Read before the Section on Pediatrics, New York Academy of Medicine, October, 1899.

her thighs and legs semi-flexed. There was swelling over the lower third of the left thigh that did not extend into the joint. There was no heat, redness, or edema. The right thigh did not give as manifest signs, but it was tender and there was thickening under the periosteum. There was swelling around the ankles and tenderness above the malleoli. The mother thought these symptoms less evident than they were a few days before. All other joints and bones were normal. The skin was mottled, but had no hemorrhagic or petechial spots. The skin at the back of the head was moist. The mucous membrane of the mouth was reddened and the gums over the lateral incisors were dark blue and swollen so that the teeth could not be seen. There were four upper incisors but the swelling covered the two lateral ones. There was no hemorrhage from the gums. The tongue was quite clean and the mucous membrane did not exhibit any hemorrhagic areas.

The liver, spleen, and heart were normal; the lungs were affected by a slight bronchitis; the urine contained phosphates, but no albumin or blood. The blood was not examined. No further evidence was needed to show the disease to be scorbutus from improper food, although the rachitic signs were not as marked as in some cases of scorbutus in infants. Beef-juice, orange-juice, and a small quantity of fresh milk were ordered. A prescription for an opiate was written so that it could be used for excessive pain and restlessness.

In three days there were few signs of the scurvy. There was still a thickening of the left thigh but the baby could sit in a high chair, and rested well. The gums were not reddened or swollen. There was no interruption to the recovery and the opiate did not have to be administered. The satisfactory result of the anti-scorbutic diet was shown by the willingness of the baby to move the legs and thighs. The relief from pain came almost as soon as it could have been accomplished by doses of opium.

#### Discussion.

Dr. Koplik: The most important symptom of scurvy is the limitation of movement. This is, of course, due to the pain. The apparent paresis that results from the fact that any movement causes pain leads to all the mistakes of diagnosis. It is the first symptom that occurs at a very early stage of the disease, and if it at once leads to suspicion as to its real cause the diagnosis will usually be easy. Any limitation of movement then that occurs in small children, especially if they have been fed to a large extent on prepared foods, should at once lead to careful examination. In my experience it is necessary to use some sort of fruit juice in the treatment. Milk and meat juice do not suffice. I have had the best results with orange juice, which is always easily obtainable.

Dr. Abraham Jacobi: Some cases of scurvy in

children begin with very unusual symptoms, and it is necessary for the physician to be on his guard in order not to mistake them. For instance, I have had two cases in which hematuria was the only symptom. It began without warning, and at first there seemed to be nothing else that would lead one to suspect the presence of scorbutus. After careful search I found a slight lividity of the gum over the central incisors, and also some petechiæ. It is the immobility of these cases that gives rise to errors of diagnosis. It is mistakenly considered to be a symptom of two diseases in particular, acute anterior poliomyelitis and acute rheumatism. As for poliomyelitis there is no excuse for the error of diagnosis, for it is immobility from pain not inability to use the limbs that is present. For rheumatism there is perhaps more excuse, but usually in scurvy the joints are not affected, and if the limb is supported the joint may be moved without causing pain. Very rarely in scurvy are there hemorrhages into the joints, in which case, of course, the similarity with rheumatism is very marked. As a rule, however, there are very few exceptions, the lesions of scurvy in the bone are subperiosteal hemorrhages in the diaphysis of the long bones.

Dr. Heiman: The blood picture in scurvy is very similar to that of secondary pernicious anemia. There is a poikilocytosis, and a number of nucleated red corpuscles are noted. The red cells are very irregular in shape, and there are many microcytes and macrocytes.

Dr. Koplik: I have seen certain cases of hemorrhagic rachitis which it would be easy to mistake for scurvy. In a case of scurvy which I saw recently there were the thickened bone-ends that made me think of rickets, but the case cleared up completely on antiscorbutic treatment.

Dr. Carr, in closing: A few years ago these cases were very generally missed, but the study of scurvy has made it comparatively easy to recognize them now if the practitioner be only on the lookout for them.

### CLINICAL LECTURE.

#### MYOMECTOMY PER VAGINAM COMBINED WITH SHORTENING THE ROUND LIGAMENTS FOR RETROVERSION, ETC.<sup>1</sup>

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*Case I.*—I shall bring before you this morning two cases. The first patient is a woman forty-three years of age, with the following history: She has been married twelve years and had one child eight years ago. Within two years thereafter she had two miscarriages, both of which

<sup>1</sup> A clinical lecture delivered at the New York Polyclinic Medical School and Hospital, December 8, 1899.

were artificially induced. Since that time she has been suffering from backache, irritable bladder, and irregular menstruation. She says that during the past three months she has menstruated profusely six times.

Upon examination, as you may remember at our last clinic, we found a retroverted uterus and prolapsed appendages of both sides, all being firmly bound down by adhesions. We also noticed that just above the waist of the uterus in its posterior surface, there was a round, hard body which suggested either a sharp flexure of the uterus or a fibroid in its posterior wall. We have before us, then, a case of retrodisplaced uterus, with such firm adhesions as to preclude the possibility of accomplishing relief by any form of treatment short of surgical interference.

The surgical procedures that have been recommended and applied for the relief of this condition are manifold, and it becomes necessary, therefore, to choose that method which especially commends itself to the operator as applicable to the case in hand. The operations most popular at the present time are (1) abdominal incision through which the uterus and appendages are set free, and the displacement relieved by stitching the uterus to the abdominal wall; (2) shortening the round ligaments, or what is commonly known as the Alexander operation, and (3) anterior colpotomy, or the opening into the pelvic cavity through the anterior vaginal fornix, the breaking up of adhesions, and the relief of the displacement by shortening the uterine ligaments.

The first operation, while it is easy of accomplishment and is usually successful in holding the uterus in an anteverted position, has fallen into disfavor on account of the serious complications attending parturition after its employment. The operation, moreover, necessitates a laparotomy, which by conservative men is regarded as too serious a procedure for the relief of this condition. The Alexander operation at present is probably the most popular procedure for the relief of retrodisplacement. It has the disadvantage, however, of having a limited field of application, being indicated only in cases of simple retroversion in which the pelvis is free from adhesions and the appendages free from disease. Moreover, about 5 per cent. of the cases subjected to this operation suffer from hernia, single or double; in another 5 per cent. the round ligaments cannot be found, and, in all, the patients bear upon their persons two unsightly scars. It is only fair to say in this connection, however, that the field of operation has been extended to include cases of adherent uteri by first opening the posterior fornix vaginae and setting the organs free by breaking up the adhesions.

The third operation, namely, the opening of the anterior fornix of the vagina and shortening the uterine ligaments through the opening, is the one that especially commends itself to me and the one which I shall apply in this case. The readiness with which this incision permits of treating the various common conditions which

we find in the pelvis will be illustrated in the case before us, and as the patient is ready, I will proceed to give you a demonstration of the advantages of this mode of procedure rather than spend further time in dilating upon them. Working upon the principle that disease in the appendages has its early seat in the mucous membrane of the uterus, it is the invariable custom to make sure that the interior of the uterus is relieved of diseased conditions in all these cases to avoid any possible return of the disease. With the patient on the back, the hips well drawn down to the end of the table, as you see, I apply a self-retaining posterior retractor, thus bringing the cervix into view, which I catch by the anterior lip with bullet forceps. The cervix is then dilated until it will admit a sharp curette, which I now pass and go over the entire surface of the uterus, scraping away all soft and spongy tissue. The uterus is then irrigated through the cervical cannula with bichloride (1-3000), and then with normal salt solution. Through this same tube I pack the uterus comfortably full with a narrow strip of iodoform gauze. I now seize the cervix with the volsellum forceps, and make a transverse incision through the vaginal wall in front of the cervix corresponding to the first incision in the vaginal hysterectomy; through this I dissect off the bladder from the uterus by dull dissection with the handle of the scalpel and with my finger until I reach the reflection of the peritoneum. Catching the edges of the vaginal incision near the middle point with the artery clamps, I draw down until the anterior vaginal wall is made taut, and then make a longitudinal incision throughout its entire length, beginning at the middle point of the transverse incision. The bladder is then dissected from the vaginal wall on either side of this incision for a distance of three-quarters of an inch. Removing the forceps and forcing my finger through the peritoneum at its reflection from the bladder to the uterus, and tearing it either side, I have a large, free opening through which to manipulate.

Passing my index finger along the anterior wall of the uterus and over the fundus, I find a false membrane reaching from the fundus to the rectum and stretched out either side along the free border of the broad ligaments, covering over the appendages of both sides. Keeping my finger in contact with the uterus, I thrust it through this membrane and strip off either side; this sets the uterus free, and by hooking my finger over the broad ligament near the horn of the uterus and forcing the cervix back into the posterior fornix of the vagina, by a little manipulation, as you see, I antevert the uterus and deliver it into the vagina.

I now remove the forceps from the cervix, and dragging the fundus of the uterus a little lower down, with my thumb and finger, I find the enlargement in the posterior wall, as you see, to be a fibroid tumor about the size of a hen's egg. By breaking up the adhesions about the appendages I set them free and am able to draw them down into the vagina for examination.



I think from where you sit you can all see that these appendages, excepting where I have torn away the adhesions, seem perfectly normal. By passing this small silver probe into the Fallopian tubes we find them patulous throughout their entire extent. As the ovaries are healthy, no operative interference is indicated and we return them to the pelvic cavity. The relaxation of the ligaments maintained during these four or five years by the retroversion, give the uterus, now that the adhesions are broken up, unusual mobility, and I am able to draw the fundus well down to the vulva, and with this bright sunlight falling directly upon its posterior wall, I will proceed to remove the fibroid or do what we know as myomectomy.

I make a longitudinal incision through the peritoneum, the muscular wall of the uterus, and the capsule of the tumor. Using the handle of the scalpel, I readily shell out the tumor from its capsule, and we have, as you see, a solid fibroid mass. I now sew together the muscular wall of the uterus with a buried catgut suture, taking care by using sufficient force to draw the muscles taut over the gauze packing which fills the uterus. To avoid any raw surface upon the uterus and the danger of adhesions therefrom, I apply now four Lambert sutures of fine silk to close the incision through the peritoneum of the uterus.

We have now relieved the patient of the fibroid tumor, which, no doubt, was the cause of her frequent and excessive menstruation; we have set the uterus and its appendages free, and it now remains to shorten the round ligaments in order to maintain the uterus in its normal position. Rotating the uterus slightly upon its longitudinal axis, I catch the round ligament with an artery clamp about  $1\frac{1}{2}$  inches in this case from the uterus. Making traction upon the forceps I form a loop in the round ligament, the edges of which I stitch together with three sutures of fine silk. To dispose of this loop in the round ligament and further assist in maintaining its supporting power, I pass another silk suture through the point caught in the forceps and again through the fibers of the round ligament as they spring from the side of the uterus and pin it there by tying the suture. The round ligament of the opposite side is shortened in the same way, as much slack being taken as can be obtained.

The bladder is now restored to its normal position, and the longitudinal incision of the vagina closed by a running catgut suture; the transverse incision is left to take care of itself, although in some instances I also close that in the same way. A little gauze pack in the vagina completes the dressing, and a self-retaining soft rubber catheter passed into the bladder makes the patient ready for bed.

*Case II.*—In order that you may see the result of this vaginal work, I now show you a woman upon whom I operated one week ago. She appeared at the clinic with the following history: Age, thirty-four years; married twelve years, and the mother of two children, the youngest six

years of age. She has suffered since her last confinement with severe and almost constant backache, pain over both ovarian regions, and a general ill health. Examination revealed a retroverted, adherent uterus, with prolapse of the appendages of both sides. Upon opening into the pelvis through the anterior vaginal fornix firm adhesions were found to exist on all sides, binding down the uterus and appendages, that were so extensive and reached down so low in Douglas' pouch that it seemed best to open Douglas' cul-de-sac to assist in breaking them up. The uterus and appendages were then delivered through the anterior incision into the vagina; the left appendages were found to be hopelessly diseased and were removed (as you will remember). Upon the right side we found a comparatively healthy ovary, but a club-shaped, occluded tube, with disease in its outer third; the tube, was, therefore, amputated at its middle point, the mucous membrane lining it stitched to the peritoneal covering around the entire circumference of the opening. This stump of tube was then attached near to the ovary and returned to the pelvis. After this the round ligaments of both sides were shortened by the method you have seen me employ to-day, and the uterus returned to its normal position in the pelvis. The operation was completed, as in the case that has just left us, with the exception that I passed some gauze into Douglas' pouch for drainage. The patient looks bright and cheerful, as you see, and tells us that she has had no pain since the operation, and is feeling well. This patient will be allowed to sit up at the end of the second week, and leave the hospital at the end of the third week. One of the advantages of this route of attack in cases of pelvic disease is the smooth and comfortable convalescence; there are no stitches to be removed, no adhesive plaster to be worn, and no abdominal supporters to annoy the patient for six months or a year; and yet in these two cases which we have seen this morning I have dealt with a variety of conditions in the pelvis that are thought by many to be satisfactorily dealt with only through an abdominal incision. An abdominal incision is a great misfortune to befall any woman, and, in my opinion, never should be resorted to in pelvic disease until an effort to relieve by the vaginal method has been tried and found to be impracticable.

## MEDICAL PROGRESS.

**Gangrene of Intestine.**—A. E. Barker reports (*British Med. Journ.*, Dec. 23, 1899) two cases of primary enterostomy. In one case he removed about thirty inches of gangrenous small intestine and in the other about twelve inches. In both cases circular enterorrhaphy was performed by means of continuous silk sutures. In both patients the strangulation had occurred in an inguinal hernial sac. The writer says that the

stomach should be washed clean with hot water and a little brandy before operation, and the patient should be well wrapped in flannel. During the operation a large enema of hot water and brandy should be given and hot saline solution should be injected hypodermically from time to time to make good the loss of fluid by vomiting, sweating, and respiration. Local analgesia with beta-eucain is advisable except for very nervous patients. These should be given chloroform. His further advice is to draw the affected loop well out until healthy tissue is in hand, empty the gut, and compress it with clamps; surround it with gauze and divide it. The cut through the lower limb may be made obliquely, so as to make the opening correspond in size to that of the upper distended limb. Close with a Murphy button or suture. Wash the gut with saline solution before returning it. Use no germicides on the intestine. If the sac is gangrenous use gauze drainage; otherwise the hernial sac may be obliterated and the ring sutured. Nutritive enemata alternating with hot-water enemata should be given every four hours.

**Treatment of Tuberculous Peritonitis.**—W. Cheyne (*Lancet*, Dec. 23, 1899) says that tuberculosis of the peritoneum appears clinically in three forms. The peritoneum may be studded with small tubercles scattered irregularly over its surface, without the formation of adhesions or omental contractions, and with or without fluid, which, if present, is either straw-colored or tinged with blood. When the finger is inserted into a peritoneal cavity in this condition it feels as if it had been pushed into a bag of boiled sago. Secondly, the tubercles may be in a condition of fibroid induration, with a matting together of the intestines and other viscera and a shrinking of the omentum. The mesenteric glands are enlarged but are not cheesy, and fluid if present is usually encapsulated. In the third condition of peritoneal tuberculosis the glands are greatly enlarged and caseated, and there are adhesions and contractions. The fluid is encapsulated and not infrequently purulent. It is a curious fact that more women are operated upon for this trouble than men, while at autopsy it is much more common in men. This may be in part explained by the fact that it is often discovered in women after a laparotomy has been performed for some other cause. Mortality is greatest in the caseous form of the disease and least in the dry adhesive form. In this form it is from 14 to 17 per cent. A study of operations upon 385 patients showed that 31 (8 per cent.) died from the immediate effects of operation, while 51 (13 per cent.) died within eighteen months from extension of the disease, and 53 (14 per cent.) were quite well two years after operation. A considerable number of the patients could not be traced, but making all due allowance for them it is undoubtedly safe to say that 50 per cent. of the patients operated upon for tuberculous peritonitis are cured. If medical measures fail to give relief in

chronic cases in from four to six months, or in acute cases in from four to six weeks, the patient should be advised to undergo an operation. There is a disadvantage in operating too early, however, since recurrence seems more likely to follow under those circumstances. Unless easily gotten at, tubercular organs should not be removed. Evacuation of fluid by aspiration has not proved successful in curing tuberculous peritonitis, and it carries with it the risk of fatal puncture of the intestine. The best operation is a simple incision without the use of germicides or flushing of the abdomen. Firm adhesions should not be separated, but if there is intestinal obstruction anastomosis may be performed. If a pus-sac is opened it should be washed out. No drainage should be employed either in the presence of serous or purulent fluid. Improvement sometimes follows operation immediately and sometimes it begins after a lapse of ten days. Cheyne looks upon the improvement as similar to that which follows the opening of an abscess and evacuation of its pus. When the fluid is removed serum is poured out. Owing to the long continuance of the infection, the serum of the body has attained a certain bactericidal power which after operation is exerted upon the organisms in the cavity into which the serum is poured. This theory explains why a too early operation fails to stop the disease, for the serum at so early a stage may be supposed not to possess a sufficient antitoxin strength. Be the cause of improvement what it may, at a later period after operation the peritoneum is often found smooth, no adhesions being present. There is a favorable time to operate—not too early and not too late—after the formation of fluid and before adhesions become firm.

**Transmission of Albuminuria.**—M. Carrière (*Gaz. Hebdomadaire de Med. et Chir.*, Dec. 14, 1899) has observed a marked heredity in the children of albuminuric patients. In support of his opinion he cites the case of a patient, who, in the eighth month of pregnancy, presented marked albuminuria. She was at once placed on a milk diet, which, although it did not remove the albumin, checked the progress of the condition. Labor supervened, and on examining the urine of the child nineteen hours after birth, traces of albumin were found. A second examination, made twelve hours after the child was put to the breast, gave negative results. Investigation showed that the condition of the mother was probably chronic, dating back nineteen years to an attack of scarlatina in childhood. Carrière believes that the condition of the urine of the infant may be fairly taken to indicate a congenital renal lesion.

**Mitral Stenosis and Air-Cure.**—Mitral stenosis, as A. Surmount (*Gaz. Hebdomadaire de Med. et Chir.*, Dec. 14, 1899) points out, may long exist without fatal result, provided one is careful to demand no greater labor of the impaired organ than it is capable of performing. It is especially necessary to prevent pulmonary complications and to

this end an air-cure is recommended. Four years of personal experience has proven the therapeutic value of this measure to be truly surprising. The method must be followed constantly, day and night; conditions of the weather, even in northerly climates, offering but rare exceptions. He cites the case of a patient who for the last two and one-half years has never slept with the windows of her bedroom closed. Absolute repose is prescribed only so far as is needed to avoid heart-fatigue. Diet is to be adapted to the state of the digestive system. Over-alimentation is avoided as it is not desirable for the patient to take on fat. Under the influence of the air-cure pulmonary troubles rapidly amend, the troublesome asthma disappears, bronchitis is less frequent, the state of the heart improves with the disappearance of these complications, the pulse becomes regular, full and less rapid, the mitral stenosis in fact ceases to be a malady and once more becomes a simple cardiac malformation.

**Acromegaly and Raynaud's Disease.**—Of more than usual interest is A. Boettiger's article (*Münch. Med. Woch.*, Dec. 19, 1899) giving an account of a case in which both these rare maladies were present. The patient, twenty-one years of age, noticed as first symptoms, coldness, numbness and formication in the hands and feet which soon turned a dark-blue color. Neuralgic pains were absent. The paresthesiæ and discoloration, at first paroxysmal, soon became more intense and persistent. The patient's attention was soon attracted to an increase in size of the hands and head. Symptoms of intracranial pressure, eye-disturbances or rheumatic pains were absent, nor could any retinal or other ocular changes be demonstrated. The tongue was wider, the nose thicker, and a radiograph showed a decided increase in volume of the bones, and more particularly of the soft parts of the right arm and left hand. The skin of the palm was tough, hypertrophied and showed excessive cornification; the hands themselves were cold and moist, but the most prominent symptom was the bluish-black discoloration, mottled with a few irregular reddish spots, and extending above the wrists. The sensation of touch was perfectly normal, but pain was elicited only on penetrating for some distance into the skin. The susceptibility to heat and cold was much diminished. In discussing the case the author says that it is not the first one of its kind; indeed, there often are peripheral vasomotor neuroses in the beginning stages of acromegaly. There are, in short, close relations between the latter disorder and Raynaud's disease, since stasis is not rare in the one and swelling and thickening may occur in the other. In both the seat (hands, feet, nose, ears and later arms and legs) is the same, and similar pathologic vessel changes have been discovered. Boettiger does not believe in the hypophysis theory of acromegaly, but on the basis of the cited case develops a new explana-

tion. It seems to him illogical to refer so general a disease to so small an organ; then, too, the fact that the pituitary body is so often diseased without acromegaly being present, and that symptoms directly referable to this body may be wanting in gigantism, make him conclude that the general belief is untenable. There are many arguments which favor the view that acromegaly is not caused by pituitary tumor. While there may be a certain relationship between the rapidity of growth of the latter and the amount of thickening in the bones, this is by no means constant. Granted that this disorder does not depend on a specific internal secretion, a cause for the hypophyseal hypertrophy must be sought. It is a well-known fact that poisons in the circulation, such as arsenic, alcohol, lead, etc., can cause changes in the peripheral parts of the body. There are also diseases dependent on the production within the body in some unknown way of toxin which can lead to vasomotor and trophic disturbances at the same sites. Raynaud's disease has been considered as such. It is probable that, due to heredity, constitution, diet, etc., toxins may be produced which have a selective action on certain tissues. Thus arthritis deformans and hypertrophic pulmonary arthropathy involve the bones; chemical poisons, diphtheria, etc., the nerves; scleroderma and myxedema, the skin, etc. Acromegaly also begins in the periphery and at its outset there may be symptoms of Raynaud's disease; it thus seems likely that leucomaines are the essential cause. The analogy is further borne out by the cerebral symptoms which suggest a toxemia. But where do these toxins come from? Most, no doubt, would say the hypophysis, but for this Boettiger thinks there is no proof. The case described was put on vegetable diet and treated with iodine, hydrotherapy, peripheral faradization and central galvanization with the most encouraging results.

**Mercurial Inunctions.**—Before a meeting of the Naturforscher und Aerzte in Munich Schuster (*Wien. Med. Blat.*, Dec. 21, 1899) read an article on the method of absorption of mercury when given in inunction. It has been stated far and wide that these inunctions simply produce a vapor of mercury about the patient which is constantly inspired with each breath and thence passed through the system. Schuster experimented upon himself with a view of determining the truth of this statement. He remained in bed for fourteen hours a day during two weeks, covered with a sack which had been prepared with blue ointment, as recommended by Weland. An examination of the urine showed the presence of mercuric iodid. After this, on nine successive evenings, he rapidly rubbed his thigh with the ointment, covering the area thus treated with parchment paper and rubber tissue, and then with a flat spatula he beat the dressings to facilitate the entrance of the mercury into the pores of the skin. Three gauze bandages completed the dressing and prevented its slipping. After wear-



ing this for six hours, he removed the ointment each morning by means of cotton saturated with benzine. After this course of treatment, which did not permit of his absorbing the mercury by means of the lungs, he examined his urine and again found the mercuric iodid ring. Thus he proved satisfactorily that although the lungs may assist in the absorptive process, the skin undoubtedly does its share of the work.

**Typhoid and Colon Bacilli.**—A series of experiments has been undertaken by E. Unger and E. Portner (*Münch. Med. Woch.*, Dec. 19, 1899) to ascertain the value of Piorkowski's new method. The culture medium consists of urine which has been allowed to turn alkaline by remaining in the thermostat for two days, 3.3 per cent. gelatine and 0.5 per cent. peptone being then added and the mixture sterilized at 100° C. Seventeen hours after inoculation the following results were obtained: The colon bacillus formed circular, sharply circumscribed, light-brown colonies, while those of the typhoid germ appeared small, clear, colorless, oval or quadrangular, with numerous single or branching filaments three or four times longer than the body itself, or they may be shorter or longer. If allowed to grow longer at 22° C., the coli colonies will develop more rapidly, while in thirty-six hours the typhoid colonies will lose their transparency, take on a yellowish-brown color and elongate, their filaments not increasing much but becoming broader, more granular and surrounding the central body in a network. Differentiation, then, becomes more difficult. While the characteristic typhoid colonies invariably yield typhoid bacilli, colonies are not always obtained and a number of similar colonies of bacilli with shorter filaments are often seen, which may yield the bacillus coli, and are also obtained in the stools of diseases other than typhoid. The authors formulate the following rules: (1) Bodies with no filaments show that there is no typhoid present. (2) If bodies with long filaments are present the diagnosis of typhoid may be made. (3) Short-filamented colonies plus the clinical signs of typhoid point toward this fever, but without these symptoms the diagnosis is in doubt. The new culture-medium is, furthermore, valuable as but from two to three days are required to determine a diagnosis. By its use the earliest bacilli are found on the second day of the disease, and during its course their number will be in proportion to the severity of the diarrhea. They usually disappear on the eighth to the tenth day of convalescence, but have been seen five weeks after the subsidence of the fever. During a relapse they reappear sometimes in pure cultures. Blood from the roseola spots gives negative results, but in the urine they can be readily demonstrated, and the authors reach the conclusion that the existence of a true nephritis is not necessary to explain their presence there. Stab cultures made with the culture-medium show that the typhoid bacillus gives

grayish lines with fine lateral branches, while the coli growths are larger and more sharply defined.

**Analysis of Gastric Contents.**—H. F. Hewes (*Boston Med. and Surg. Jour.*, Jan. 4, 1900) presents a new and simple method of quantitative analysis of the gastric contents for use in clinical work. The steps are as follows: (1) *Total free HCl.*—To 5 c.c. of unfiltered contents in a test-tube add a few drops of Töpfer's reagent. If free HCl is present the mixture will assume a carmine-red color. To this add a decinormal solution of sodic hydrate by titration until the carmine changes to an orange, or a bright yellow. Multiply the number of cubic centimeters of the soda solution necessary to cause this change by .00365 gram, and the result is the amount of free HCl in the 5 c.c. of contents. (2) *Total free Acids plus Acid Salts.*—To the same mixture continue to add the decinormal soda solution until a drop of the mixture fails to color Congo-red paper. All the free acids and acid salts are now neutralized. From the quantity of soda used up to this point the quantity of free acids plus acid salts in the contents can be estimated in the same manner as in the estimation of the free HCl. (3) *Total Acidity.*—To this neutralized mixture add two drops of a one per cent. alcoholic solution of phenolphthalein. Continue to add the soda solution until a deep red of maximum intensity is obtained. The deep red color indicates an alkaline reaction. From the total quantity of soda solution used in neutralizing all acid elements the total acidity can be estimated. Now the quantity of total organic acids plus acid salts is obtained by subtracting the results of Test 1 from the results of Test 2. By subtracting the results of Test 2 from the results of Test 3 there is obtained the total combined acids, and by adding this result to the results of Test 1 the secreted HCl is obtained. Hewes also gives methods of analysis when there is no free HCl present, and the details of a test for combined HCl when such is the case. Hewes uses these methods as a routine in his clinics in all cases of gastric affection.

**Diphtheria.**—Statistics in regard to diphtheria in the general hospital at Solothurn in Switzerland, from January 1, 1896, until August 15, 1899, have been compiled by Aug. Walker (*Correspond.-Blatt. f. Schweizer Aerzte*, Dec. 15, 1899) as follows: The mortality rate is still high, being 15.8 per cent. in the 315 cases reported. This statement must be modified, however, when it is seen that tracheotomy had to be resorted to in 177 cases, and that in these cases alone the mortality was 22.6 per cent. This high mortality is due to the large number of cases under one year of age in which the disease was already far advanced and in which the antitoxin serum has been found not as efficient as in older cases. Of the remaining 138 unoperated cases only 15 died—a mortality of about 11 per cent. These included both the simplest cases and the most advanced and dangerous cases in which it was too

late to resort to tracheotomy. Even the death rate of the cases operated on (22 per cent.) should not be considered high, for so low a rate has never been attained before the serum treatment was introduced. At that time the mortality was frequently over 55 per cent.

A curious observation made by the author is that the worst cases came in from the outlying villages, while those from the city itself were both less severe and less persistent. There were many cases in which there was little or no fever. A temperature of 38° or 39° C. was the rule, while higher fever than this indicated always belonged to the worst cases and made the prognosis grave. Especially was this true if the temperature remained up for a long time as it indicated a severe accompanying bronchopneumonia. Cardiac weakness was seen less frequently than bronchopneumonia. In these cases the temperature is either normal or it sinks to a subnormal point, and the accompanying asthenia may at the slightest movement, such as the lifting of the child, lead to immediate collapse and death. The hemorrhage following tracheotomy is also extremely dangerous to the life of the patient. The paralyzes, about which so much has been said and written as to their increase after the use of the antitoxin, did not occur with any greater frequency than before the use of the serum. Untoward results due to serum-therapy were seldom observed. No abscesses were produced thereby and exanthemata very seldom. In four cases a pemphigus eruption was observed, but all were cured of it—one however, dying from a complicating pneumonia. Intubation is not practised by the author and therefore no statistics regarding it are forthcoming.

**Lupus Treated by X-rays.**—P. M. Jones (*Phila. Med. Jour.*, Jan. 6, 1900) reports two cases of lupus treated by x-rays, one of which he thinks is the first so treated in this country. The first patient, a man fifty-five years of age, had had lupus on his right forehead for twelve years. He had been treated by the actual cautery, curetting, applications of creosote, silver nitrate, hydrogen dioxide, and by many other methods, which caused the lupus to heal temporarily. Later it would break down, ulcerate, and again heal. Each time it returned it was a little larger. At the time the x-ray treatment was begun the involved area was about one and one-half inches long by one-half inch wide. There were three ulcerating points. A sheet of lead was so cut as to protect all of the head except the lupus area. The hole in the lead was cut so as to protect one of the ulcerating points, as a control on the treatment. The patient was exposed four to six inches from a "soft" vacuum tube two to three times a week, the exposures lasting two to five minutes. At the end of four weeks the whole area was healed, with the exception of the one ulcer which had been protected. This was then exposed and was healed in three weeks. The lesion has remained healed. The

second patient had had the disease thirty-five years. The whole right side of the face, including the ear, was involved when the treatment by x-rays was begun. The method of treatment was the same as in the previous case, but the exposures were a little longer, averaging five minutes each. Twice an inflammatory condition was caused by the exposures and treatment was suspended. A marked improvement was apparent each time as the inflammation subsided. The ear, being protected from the x-rays, remained unchanged, but the rest of the face improved and healed for the first time in twenty years. The writer is now treating the ear with the result that it has decreased in size and ulceration has ceased. The rays from a "soft" tube are more easily absorbed by the skin, and so are more efficacious in treating lupus. Jones believes that the method of treatment by ultra-violet light (Finsen) will prove better and more rapid than by x-rays.

**Ophthalmia Neonatorum.**—It was formerly considered that the cause of ophthalmia neonatorum was an improper exposure of the eyes of the child to light. It is now thought that its origin is nearly always gonorrheal, and that the infection comes from the maternal passages during parturition. The disease appears at any time between the second and eighth day after birth, therefore D. S. Reynolds (*Jour. Am. Med. Assoc.*, Jan. 6, 1900) holds that this fact contradicts the theory that the eyes are infected during delivery. Moreover, the staphylococcus aureus procreates in culture media within twenty-four hours, and in by far the greater number of cases the inflammation is due to its development—not to gonorrheal infection. The writer is thoroughly convinced that infection is due to unskilled attempts at washing the child's face or to meddling with its eyes. As to treatment, if seen in the earliest stage, a collyrium composed of sodium borate, grs. x; sodium chlor., grs. iii; ac. carbolic (cryst.) gr.  $\frac{1}{4}$ ; distilled water,  $\mathfrak{z}$ i, should be used, 1 drop being instilled into the affected eye every half hour. When the discharge becomes purulent the same solution should be used with an irrigator, night and day, every half or every quarter of an hour according to the profuseness of the discharge. In cases of undoubted gonorrheal origin the irrigating fluid should consist of sodium chlor.,  $\mathfrak{z}$ iii; bichloride of mercury, grs. iv; ac. carbolic, grs. xvi; water Oi. If there is extensive swelling of the upper lid a free canthotomy should be done, so that the lid can be everted and the eye thoroughly washed with the irrigator. In conclusion, Reynolds decides that the disease is always the result of contagion, the eye being infected during an attempt at practising Credé's method of prevention, or by the unclean hands of a nurse. The only way to prevent the disease is to avoid infection. The writer condemns very strongly the method of Credé of instilling nitrate of silver solution. When one eye alone is infected the well eye should be protected by a well-fitted watch-glass. Care should



be taken not to cause any abrasions of the cornea, and inflammatory matter not removed by the irrigation should not be removed by any other means.

**Diet in Typhoid.**—Until recently the feeding of typhoid patients on a simple fluid diet has been so generally and uniformly accepted that physicians have learned to give the stereotyped milk diet without making any attempt to allow a more varied and extended regimen. During the last few years investigations have been made along these lines by several prominent physicians, among whom are Bushuyev, Shattuck, and Fitz. Morris Manges (*Med. Rec.*, Jan. 6, 1900) has given a review of the results obtained by the above investigators and has also reported his own somewhat limited experience in eight cases. Bushuyev treated eighty cases in the year 1896-1897, allowing a full diet, while another attending the same hospital (Russian) allowed only a diet of milk and one or two soft-boiled eggs to a series of seventy-four patients. The percentages in regard to deaths, recoveries, hemorrhages, and perforations, and the general conditions of the patients were slightly in favor of the series treated with a full diet. During the year 1897 he treated 318 patients, losing 26, or a percentage of 8.2. In addition to liquids, such as milk, tea, coffee, cocoa, and soups, he allowed solid foods, such as chicken, boiled meats, cutlets, and bread. In fact, he attempted to stimulate the appetite by a variety of palatable foods. Drs. Shattuck and Fitz of Boston have also obtained results which are signally striking and favorable. They, however, do not advise eating everything, but insist that the patient and not the disease be treated, and that he be fed with reference to his digestive power and not with reference to his fever. Special stress is laid upon the point that typhoid is a general toxemia and it is to this rather than any particular lesion that attention must be directed and the diet regulated. It is urged that the general nutrition must be maintained just as in cases of fever due to tuberculosis and suppurative germs, for the disease is one of considerable duration, and liquid food alone cannot replace the enormous waste. The fear of hemorrhage and intestinal perforation seems to be the cause of the restricted diet, according to most authorities, but it is maintained by the advocates of a full diet that the food is so changed by digestion, before it reaches the seat of typhoid ulcers, that it would have no more local effect than milk. The cause of a perforation is not the character of the food but the nature of the ulcer, since one never hears of the perforation of a tuberculous ulcer due to food. It is also urged that diarrhea and tympanities are increased by solids, but Bushuyev and Shattuck especially note that many of their patients were constipated. The determination of how many relapses may be due to the administration of solids is extremely difficult for the causes of this unfortunate condition are merely conjectured. The consensus of opinion seems

to be that they are oftentimes due to the too early administration of solids, but the proportion of relapses in the cases reported by the several investigators was by no means larger than usual. The good results obtained in the cases in which this method of treatment has been tried certainly justified further experiments along the lines of a more extended and varied diet.

**Influenza and Endocarditis.**—In a meeting held on December 15, 1899, Jehle (*Wien. Med. Blät.*, Dec. 21, 1899) reported several cases of endocarditis in which he found influenza bacilli. Heretofore these bacilli have been found present in the kidney, in the spleen, in meningeal fluids and exudates, not to mention the lungs and pleura, in cases of pericarditis. In the cases mentioned the author described them as existing in exuberant growths on the aortic flaps in endocarditis. He obtained pure cultures of the bacillus from one case; in another the bacilli were associated with staphylococci. In one of the cases no disease of the lung could be demonstrated. Jehle further stated that these germs could make their way through the body not only in the lymph-channels, but also in the blood-vessels.

**Epistaxis.**—Bleeding from the nose used to be considered either a warning, a remedy, or a disease. The opinion that it is a disease is being more firmly established. F. C. Cobb (*Boston Med. and Surg. Jour.*, Jan. 4, 1900) thinks that it should really be called a symptom either of a lesion in the nose or of some general condition. The most common local cause is a deformity of the nasal septum. The deviation catches dust, this inflames the mucous membrane, and a scab is formed which is picked or scratched off, leaving an ulceration. Some time later this ulceration reaches a vessel and hemorrhage ensues. Fracture is very common among the local lesions causing epistaxis. Of all the constitutional diseases cited as general causes of epistaxis, Cobb has found nephritis to be the most common, and reports two cases. Epistaxis from this cause is usually severe, as the walls of the arteries are affected. Mild forms of epistaxis can be stopped by simple application of ice to the side of the nose, cold to the spine, or cold water injections. If hemorrhage is severe, a five to ten per cent. solution of cocain should be introduced on pledgets of cotton, and allowed to remain in for from five to ten minutes. If the bleeding does not cease, a ten per cent. solution of suprarenal capsule, made from tablets or powders, may be used. This acts magically but bleeding is apt to recur. If possible the bleeding point should be found and cauterized with chromic acid or the galvano-cautery, after cocainization. If necessary to plug the nostril it should be done by introducing strips of gauze along the floor of the nose with long forceps. The packing should remain in for from twenty-four to forty-eight hours and very carefully removed.

**Therapy of Dionin.**—The excellent work which has been done by von Mering in searching for



safe and efficient morphin succedanea has led to the discovery of a number of new synthetic remedies, the most recent of which, dionin, has been clinically examined by Th. Janisch (*Munch. Med. Woch.*, Dec. 19, 1899), especially with reference to its use in diseases of the respiratory organs accompanied by irritation and pain. The results have been highly gratifying. A number of cases of pulmonary phthisis are narrated in which dionin was successful in alleviating the cough, stopping the vomiting, diminishing the sweats and removing the insomnia without at the same time causing bad after-effects. The beneficial effects were no less startling in chronic bronchitis with emphysema. The author was thus stimulated to try the drug in the more acute affections, but noticed that here less uniform and prompt relief was obtained. His conclusions may be stated as follows: The sleeplessness is always remedied, although in cases in which large doses of morphin have been regularly administered previously, the drug often fails; mental dulness, nausea, and vomiting do not occur; diarrhea is often arrested, but constipation never results; expectoration is more free; the pains are ameliorated, and the night-sweats are less profuse. It is only in advanced cases of consumption, not necessarily complicated by laryngeal tuberculosis, that the irritation of the throat will demand the use of morphin. In asthma and allied conditions the employment of the latter drug, however, can be entirely dispensed with. Two or three daily doses of one-third of a grain or an evening dose of half a grain are recommended.

The same drug is discussed by Meltzer (*Munch. Med. Woch.*, Dec. 19, 1899) from the standpoint of the alienist. It had been previously shown that dionin possesses little superiority over morphin as a sedative in the various forms of insanity which are accompanied by severe excitement and emotional outbreak, but Meltzer is fully satisfied with the results he obtained in the mild hallucinations of females, especially in secondary dementia. The patients ceased to react to their morbid sensory disturbances, and in from a quarter to half an hour calm and quietude supervened. Excitement, such as occasionally occurs with hyoscine, did not appear, but as a soporific the drug seems to vary but little from morphin, it being not a true hypnotic but a sedative to the nervous system, causing this to react less readily toward external stimuli. Sequellæ, such as dulness of mind, palpitation, syncope, vomiting or increased excitement, have been experienced by the author in but three cases, and he recommends that the drug never be used when great excitement or irritability is present, or when the disease is of long duration or of great intensity. In comparing morphin with its various substitutes, the following may be said: (1) Morphin itself is characterized by many disagreeable sequelæ, and its continued use develops a dangerous tolerance. (2) Codein is generally less active, has similar after-effects, and its subcutaneous use is painful. On the other hand, it does not depress respira-

tion, and therefore may be used with impunity in many cases in which morphin cannot be employed. (3) Peronin is not easily soluble, and has a disagreeable taste, but its administration is not followed by untoward symptoms. It is peculiar in that it irritates the capillary endothelia of the conjunctiva and increases the nutritive flow of lymph in the cornea, and thus may be employed as a subconjunctival injection. (4) Dionin also possesses this property; furthermore, its taste is not objectionable, it is freely soluble, does not depress the respiratory center, can be administered for a longer period without fear of tolerance, and its use is not followed by a train of unpleasant symptoms. (5) It is more sedative than its related drugs, and is especially good in mild hallucinatory and melancholic states.

**Scrofula and Tuberculosis.**—The ever-interesting etiology of scrofula is discussed by Rothholz, of Stettin (*Ther. Monatshft.*, Dec., 1899). He shows how frequently swelling of the lymph-node is associated with disease of the naso- and oropharynx and recognizes in these the cause in many cases. The various unhealthy conditions of ear, eye and face, which so often accompany scrofula in these cases, can be accounted for by extension or secondary infection from the nose. The acute or more chronic swellings seen after the exanthemata may also be due to a primary nasal focus. All these conditions disappear with proper treatment of the nose. That a true scrofulous lymphadenitis occurs cannot, however, be disputed. The presence of cheesy degeneration or of giant-cells without tubercle bacilli is not, however, sufficient to warrant a diagnosis. The latter are seen sparingly or not at all, but more positive results may follow inoculation of portions of the nodes or the use of tuberculin injections. Scrofulosis is thus generally regarded as a local tuberculosis of markedly chronic character. The infection may be descending, from the nose or tonsils often without directly involving these, or ascending, from the bronchial glands or lungs. We can never, however, be certain that the tuberculosis is the primary lesion, and it is the author's opinion that scrofula really is a chronic inflammation from unknown cause, which secondarily becomes infected by tubercle bacilli.

**Hypertrophy of Prostate.**—Having had a long experience with Bottini's operation for the relief of prostatic hypertrophy, R. and H. Rorig (*Central. für Krank. Harn- und Sexual Org.*, Dec., 16, 1899) are strongly convinced of its favorable influence. They advocate in every case a palliative treatment of several weeks' duration. If the result is not a satisfactory one, the prostate is cauterized through the urethra according to the method described by Bottini. The results of this treatment in their hands have been remarkably good, and the operation has the especial advantage of permitting the patient to go about after one or two days' rest. It is practically without danger.

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SATURDAY, JANUARY 13, 1900.

## MEDICAL EDUCATION AND POLITICS.

THE question of higher medical education in New York State has passed successfully through the trying ordeals that have dogged its footsteps—the jealousies of rival institutions and the selfish interests of private corporations. No sooner, however, have the medical educational institutions of the State placed themselves in line with the advance guard of progress in medical education, established an abiding harmony between themselves and the State Board of Regents, and begun to feel the solid earth under their feet, than the entire educational structure is shaken by the proposed interference with its organization. The disinterested efforts of the Regents are now met by the blighting touch of politics. In the proposed unification of the educational system of the State the politicians have seen an opportunity to enlarge their sphere of spoils, and are attempting to degrade it to the ignoble service of party politics.

We publish to-day a letter from Dr. William H. Watson of Utica, in which he sounds a warning to the medical profession regarding the danger that threatens medical education in the State. Dr. Watson has for many years been Chairman of the Regents' Committee in Medical Education

and he knows whereof he speaks. The placing of the power to appoint the Chancellor of the University in the hands of the Governor, at one stroke prostitutes the whole educational system to political uses. Every member of the profession throughout the State should protest to Senators and Assemblymen against this innovation. The present time-honored system has developed an educational department unsurpassed by any other State and productive of most satisfactory results. It was created by the unrivaled political genius of Alexander Hamilton and is now well advanced in its second century of fruitful existence. It is one of the very few institutions that have remained free from suspicion of corruption amid influences which in these later days tend to reduce everything pure, noble, and of good repute, if it can contribute to party power, to the debasing fluctuations and uncertainties of party politics.

Unify the system if it will make it more efficient, but keep it out of politics.

## END-OF-THE-CENTURY IDEAS OF GONORRHEA.

WE publish this week from the pen of Professor Neisser of Breslau, the well-known discoverer of the gonococcus, an article on the dangers to society from gonorrhea. Even to medical men some of the statements made by their distinguished German colleague will come in the nature of a revelation. Gonorrhea for generations has been considered scarcely more than a passing incident of youthful indiscretion, something that it was allotted to most of the male portion, at least, of the race to experience. Scarcely any more significance was attached to it than to one of the ordinary infectious diseases of childhood.

To consider the disease as a great popular plague, as Professor Neisser does, the universality of which is equalled only by that of measles; but the effects of which are of the most serious kind for the race in general—this is something new. And yet there is no exaggeration. The disease is unsexing large numbers of the population, men and women, every year. It is an important factor in the decrease of the birth-rate all over the world. It is the great causal element in the sterility of marriage, absolute and relative, or, as they call it abroad, one-child sterility. Finally, it is of serious import in the world's economy, since it diminishes to a notable degree the wage-

earning capacity of its victims, not only during its acute manifestations but often for years.

All this Neisser has emphatically presented. His plea for greater publicity in the matter and for carefully devised instruction of the rising generation at the various seats of learning regarding the disease, should find a hearty response throughout the profession. This is a conviction that has found expression recently on more occasions than one in the editorial columns of the *MEDICAL NEWS*. No possible harm can come from the general dissemination of knowledge in this matter. On the contrary, it gives promises of great benefit to the race.

The second plea that, for the sake of the community in general as well as for the individual, hospital treatment should be conceded to patients suffering from venereal diseases whenever it is desired, is deserving of most serious consideration. The ethical principles that dictated the establishment, in many of our hospitals, of regulations excluding such patients were founded on certain sentiments with regard to venereal diseases that are not shared by this generation. We have gotten beyond the notion that a man should be permitted to suffer the physical consequences of his transgressions of moral law. Moreover, it must be borne in mind that the penalty is apt to fall quite as severely on the innocent wife and children as on the evil-doer himself.

Professor Neisser's masterly review of a subject which his investigations have made him so competent to handle is calculated to do great good. And it is a source of gratification that the *MEDICAL NEWS* has been selected as the medium for the communication to the profession in America of Professor Neisser's ideas.

#### **SCURVY, ITS PRESENT OCCURRENCE AND TREATMENT.**

A CHANGE has come over medical sentiment during the past few years in regard to the frequency of scurvy. The cases that occur at the present time, however, do not present the easily recognizable conditions that made it impossible formerly to overlook or mistake the disease, *viz.*: the bleeding, spongy gums, the cutaneous hemorrhages, and the conspicuously faulty diet. On the contrary, they are frequently monosymptomatic, and the single symptom may be entirely distinct from those ordinarily set down in the text-books as characteristic of the disease.

The diagnostic points presented in the discus-

sion of Dr. Carr's paper (see p. 51) by Drs. Jacobi and Koplik are of great practical importance and indicate that the possibility of scurvy must always be prominently before the practitioner's mind in dealing with obscure conditions that involve serious changes of metabolism.

The treatment of scurvy, fortunately, is most satisfactory. Meat-juice and milk are the ideal articles of diet, but in practise it has been found that, to achieve the best results, they must be supplemented by lemon- or orange-juice.

## **ECHOES AND NEWS.**

### **NEW YORK.**

**\$100,000 for Columbia.**—Mr. John D. Rockefeller has presented \$100,000 to Columbia University for the endowment of a Chair of Psychology.

**Brooklyn Neurological Society.**—At the annual meeting of the Brooklyn Society for Neurology, Dr. William Browning was elected President; Dr. R. C. F. Combes, Vice-President, and Dr. W. H. Haynes, Secretary, for the ensuing year.

**Genito-Urinary Section.**—At the last meeting of the Genito-Urinary Section of the Academy of Medicine, Dr. W. K. Otis was elected Chairman for the ensuing year. The date of meeting was also changed from the second Tuesday to the third Wednesday in the month.

**An Electric Ambulance.**—St. Vincent's Hospital has a horseless ambulance which is operated by an electric motor supplied with power from a storage battery. It is the gift of Edward Kelly, Esq. Its cost is \$3000, and it can travel at the rate of ten miles an hour. It is in many respects similar to the present city ambulances, but it is equipped in front with sliding, glass doors for use in stormy weather.

**New York Neurological Society.**—At the annual meeting of the New York Neurological Society the following officers were elected for the year 1900: President, Frederick Peterson, M.D.; First Vice-President, Joseph Collins, M.D.; Second Vice-President, L. Stieglitz, M.D.; Recording Secretary, Pearce Bailey, M.D.; Corresponding Secretary, Lewis A. Conner, M.D.; Treasurer, Graeme M. Hammond, M.D.

**The Babies' Hospital.**—The Rev. Dr. Charles Cuthbert Hall, in an address, declared that the Babies' Hospital has set an example for the care of the very young which has been followed in a large number of cities. This hospital sends pamphlets to poor people explaining the proper care of a child. During the past year 394 patients were treated. Thirty-four nurses have been trained and graduated in the training school which the hospital conducts.

**Montefiore-Home Work.**—The fifteenth annual



report of the directors of the Montefiore Home for Chronic Invalids shows that during the last year 609 patients were treated; 194 were discharged, of whom 114 were improved and 36 were cured. The average death-rate was 16.91 per cent. There are 132 cases waiting to be received. Only 39.19 per cent. of the applications received during the year could be accommodated with the present facilities. A sanitarium is being built, at Bedford Station, Westchester County, to which all of the patients afflicted with pulmonary diseases will be removed.

**Widows and Orphans.**—The New York Society for the Relief of Widows and Orphans of Medical Men has issued its fifty-eighth annual statement, 1899. Its funds now amount to \$234,981.86, securely invested, and its income for 1898-9 was \$10,301.59. Under the present by-laws of the Society the annuities allowed are: To the widow of a member an annuity of \$400 a year, but for every ten dollars or multiple of ten of income an amount equal to fifty per cent. of said income shall be deducted from the annuity. Each child entitled to relief is allowed \$100 per annum, subject to the same conditions as a widow. The Society has extended aid to eighteen widows and six children of deceased members during the past year.

**"Archives of Neurology and Psychopathology."**—Although somewhat belated this number of Volume II. of *The Archives*, coming from the Pathological Institute of the State Commission in Lunacy, shows that the promises of the editors are commencing to be realized. The present number contains two short and practical chemical papers by Dr. P. A. Levene on the proteids of the brain and the iodide compounds found in the body following the administration of potassium iodide, and a monographic treatment, which is a masterpiece of work in every way, by C. J. Herrick on the cranial nerve components of one of the bony fishes. This study received the prize of the Alumni Association of the College of Physicians and Surgeons. It is an invaluable contribution to those interested in comparative neurology.

**The Suicides of 1899.**—During 1899 *The* (New York) *Sun* reported 569 suicides in this city, of whom 442, or 78 per cent., were males. Of the whole number 226 shot themselves, 141 took poison, 43 died by hanging, 54 by gas, 37 by drowning, 30 by cuts or stabs, 22 by leaps and 9 by other methods. In 7 cases the method was not stated. Shooting was more popular with men and poisoning with women. Hanging was slightly more frequent among the males proportionately to their respective numbers. Twenty-four of the 30 who died by cuts and stabs cut their throats. In 16 instances the razor was used. The poison most frequently used was carbolic acid, which was taken by 54 per cent. among the males and 75 per cent. among the females who took poison. Of the total female suicides 37.8 per cent took carbolic acid. The stated causes of 267 of the

569 suicides were: Out of work 39, love episodes 18, domestic afflictions 54, sickness 57, business troubles 39, crime 23, other causes 37. Some absurd reasons for self-destruction were: A leaky roof; failure to get to a Christmas dinner, and the threat of a bath.

**The City's Charities.**—In their twenty-seventh annual report to the State Charities Aid Association, the New York County Visiting Committee complimented Commissioner John W. Keller upon the marked improvement during the past year in the condition and management of the various institutions in the Department of Charities of New York City. As much as possible has been done with the limited appropriation of \$200,000. An earnest desire to improve the condition of the public institutions has been evident. There is a gratifying decrease in the number of inmates during the year as probably indicative of better industrial conditions in the community and also of more careful discrimination in the admission of inmates. Paid employees have been substituted for prison labor—a very commendable improvement. Many other improvements are needed, notably a new building for the Harlem Hospital. It is stated that in view of the excellence of the maternity service in the city institutions, it is not proper that the city should pay large sums of money to private institutions for the care of such cases when the city's own institutions are able to receive them and to provide for them at much less cost. The special committee of the State Charities Aid Association appointed to consider the subject of public aid to private institutions has reported to that body its conviction that the plan of granting public subsidies to private institutions has inherent and grave dangers which cannot be obviated and that no plan can be devised which will insure wholly satisfactory results. The city authorities, who have practically complete control in the matter, should begin at once to reduce the amount so appropriated with a view to finally discontinuing absolutely the custom in the near future.

#### PHILADELPHIA.

**The Obstetrical Society.**—The election of officers for the current year by this Society was held during the past week, the results being as follows: President, Dr. John C. Da Costa; vice-presidents, Drs. John M. Fisher and George M. Boyd; secretary, Dr. Frank W. Talley; treasurer, Dr. John G. Clarke.

**The College of Physicians.**—The annual election of officers of the College of Physicians which was held last week resulted as follows: President, Dr. W. W. Keen; vice-president, Dr. H. C. Wood; censors, Drs. Alfred Stillé, William F. Norris, Richard A. Cleeman, Arthur V. Meigs; treasurer, Dr. Richard H. Harte; honorary librarian, Dr. F. P. Henry.

**New Children's Ward.**—At the last meeting of the Board of Managers of the Episcopal Hos-

pital, held last week, it was decided to shortly begin the erection of the new Aspinwall Ward for Children, the fund for this purpose, bequeathed several years ago by the late Anna R. Aspinwall of Pittsburg, being now in possession of this institution. The cost of this addition to the hospital will amount to \$200,000.

**School Medical Inspectors.**—In compliance with the agreement reached a few weeks ago by the Board of Health and the Board of Education, this week saw the beginning of the system of daily medical inspection of the public school children, by the corps of volunteer medical inspectors recently appointed by the city on the recommendation of the various medical schools and hospitals. Thus far 210 physicians have been appointed to conduct these inspections, the present system being regarded as experimental, to become permanent later, with a paid corps, if it proves satisfactory.

**State Board of Medical Examiners.**—The results of the midwinter meeting of this Board, just concluded, have been embodied in a report which will be filed at Harrisburg and will form the subject for action at the meeting to be held at the Capital this week, by the State Medical Council. On account of the recent and evidently sustained charges of fraud in the State Medical examinations, this report is awaited with especial interest, and it is promised that the current meeting of the Council will develop a number of startling revelations in reference to this unsavory and decidedly well-advertised episode which involved in its meshes not a few of last year's graduates.

**Palladium Chloride in Phthisis.**—At the last meeting of the Philadelphia County Medical Society, held January 3d, Dr. S. Solis Cohen related his experience with this palladium salt in the treatment of pulmonary tuberculosis, his attention first being drawn to the drug by John Johnson, a nurse in the Jefferson Hospital, who had for a long time used it for the preparation of ligature material because of its marked antiseptic and oxidizing properties. The drug was given in solution, made with the aid of hydrochloric acid, and should be used in the strength of 15 grains to the fluid ounce. The initial dose is 5 drops of this solution, well diluted with water, and administered from ten minutes to one-half hour before meals; the dose is later doubled, if the patient stands it well. The only untoward effect noticed from its administration was an acceleration of the cardiac action, the fact that this was due to the drug being shown by the subsidence of this symptom when the drug was withheld, and its reappearance as soon as its readministration began. The action of palladium chloride in pulmonary tuberculosis is thought to improve nutrition, and to lessen the activity of septic processes. In some cases it gives better results, if alternated with iodoform for several days at a time. Dr. Cohen is inclined to regard the drug

as of real value in the treatment of phthisis, many cases improving in weight and losing febrile manifestations from its use. A number of cases, some detailed, were quoted to demonstrate its usefulness in the treatment of this condition.

**Rupture of the Liver.**—Dr. Joseph Sailer, at the last meeting of the Pathological Society of Philadelphia, held December 28th, reported an interesting instance of this kind. The patient, a man who died five days after having been violently thrown down and trampled on in a crowd, had received a severe blow in the region of the liver, with no external evidences of the injury with the exception of a trifling contusion with more or less abrasion at the seat of the injury. Autopsy showed that the peritoneal cavity was filled with blood, but that no inflammation of the peritoneum existed, this membrane appearing normal after a brownish-red deposit was wiped away. An enormous laceration of the liver was found, extending in the form of a slit through almost the entire thickness of the right lobe. The primary point of rupture seemed to lie deep in the substance of the organ, from which situation a number of irregularly shaped fissures radiated in various directions, producing extensive lacerations in many parts of the liver-substance. Fan-shaped areas of necrosis surrounded these lacerated portions of the organ. The most interesting point in the case appeared to be the fact that death had not been due directly to the rupture of the liver or to the extensive peritoneal effusion of blood, for cultures made from the blood showed the presence of an organism corresponding to the pneumobacillus of Friedländer. A white mouse inoculated with the growth died the following night, and growths made from the tissues of this animal were characteristic of the organism in question. The speaker thought it probable that the pneumobacillus had gained access to the liver through the bile-ducts and, by means of the rupture, entered the abdominal cavity, and in the blood there present had developed its toxins. The therapeutic question in this case seems whether or not it is advisable to evacuate the abdominal cavity in such cases when the symptoms of peritonitis are present.

#### GENERAL.

**Dr. Conan Doyle** has volunteered his services to the British army for service in South Africa, and will go out with the Langman field hospital.

**Marine Hospital for Honolulu.**—The President issued an order on January 6th setting apart about seven acres out of the government reservation, east of the "Punch Bowl," in the Island of Oahu, Hawaii, as a site for a United States Marine Hospital for the Port of Honolulu.

**Influenza Epidemic.**—It is reported from London that the weather there is most debilitating and dreary. Influenza has become epidemic again, and there is sickness, as well as mourning for the heroes of the war, in nearly every West End house.

**Dr. Czerny Coming.**—By invitation of Dr. R. F. Weir, the President of the American Surgical Association, Professor Czerny, Professor of Surgery at Heidelberg, has arranged to be present at the next meeting of the Association, at Washington, in May. He will read a paper upon surgical operations for the relief of gall-stones.

**The Association Medal.**—At the meeting of the American Medical Association, held June 4, 1897, it was resolved to restore the former policy of the Association in favor of offering annually a gold medal for meritorious scientific work. The committee for this year consists of Drs. George M. Gould of Philadelphia, E. Fletcher Ingals of Chicago, and T. W. Huntington of Sacramento, Cal. For information governing the competition apply to committee.

**\$5,000,000 to Charity.**—By the will of the late Robert Breck Brigham, a hotelkeeper of Boston, the bulk of an estate of \$5,000,000 is given to charity. The chief provision is for the establishment of a new hospital in Boston to be known as "The Robert B. Brigham Hospital for Incurables," which is to be maintained as an institute for the support and treatment of such Boston people as are unable to support themselves by reason of incurable disease or permanent physical disabilities.

**Dr. Schenck Removed.**—As the result of a demand by the Vienna Medical Faculty that Dr. Schenck be dismissed for the alleged "frivolous publication of scientific matter," he has received permission from the Minister of the Interior to retire on a pension. Dr. Schenck was professor at the University of Vienna and President of the Embryological Institute. This severe discipline has been administered on account of the publication of his book, in which he asserted that he had discovered the power of predetermining the sex of offspring. It savored too much of personal advertising.

**Another Old School Doctor** has appeared in fiction, this time in a book by Stacpoole. When on earth the doctor was much beloved by the people of a remote part of Somersetshire, whom he ruled as well as healed. His characteristic gruffness is well illustrated in his opinion of the germ theory. "Damn microbes; there ain't any such things. I remember the time when *The Lancet* was a paper that a man could understand. That was when Watson was alive and Jenner and Gull were young men. Now it's all packed full of microbes and antiseptic surgery. Microbes there may be in London, but there ain't any in Somerset."

**Barbarians?**—For those of us who cling to the Greek notion that all are barbarians who speak another tongue, it is well to notice the titles of the articles in a little volume published by the Ekaterinoslav Medical Society to commemorate the twenty-fifth anniversary of its foundation. "The Comparative Value of Disinfectants," "Hypnotism as a Therapeutic Means," "Railway Ambulance Cars," "Syphilis of the Heart,"

and "The Sanitary Condition of Jewish Primary Schools," are some of the subjects considered, which show that Southern Russia may be a long way removed from New York, London and Paris in miles, but is not so far away in years.

**Mosquitoes and Japanese Literature.**—A correspondent of the *Lancet* points out that in a little Japanese romance, published in 1885, the following statement occurs: "The Japanese declare that its (the mosquito's) constant attacks bring on a kind of fever; and this is by no means improbable, having in view the fact that this pest prepares for the summer campaign by a course of training on the swamps and marshes of the neighborhood, and inoculates whole families with the essences of these odoriferous hunting-grounds. If sleepless nights combined with repeated doses of this subtle poison were not to give rise to feverish symptoms, it would, indeed, be strange." Truly there is nothing new under the sun.

**Gynecology in Guam.**—Captain Leary, the Governor of the Island of Guam, has recently forwarded to Washington what is considered a remarkable innovation in naval requirements—a requisition for a full set of obstetrical and gynecological instruments. It appears that the naval surgeons who are stationed at Guam have been very active in establishing hospitals in several of the larger villages; one contains ten beds and another as many as twenty. The surgeons have been disseminating among the people much needed knowledge of the rudiments of hygiene and the care of the sick. From the requisition above referred to it is evident that the female population of the Island are about to be initiated into the most recently approved scientific surgery.

**Information Wanted.**—The psychophysiology of anesthesia is a productive subject greatly in need of adequate investigation and discussion. Both pure science and practical surgery have doubtless much to gain from a more extensive study of experiences under ether, chloroform, nitrous oxide, etc., than has yet been made. Scientific literature has frequently contained reports of single cases, made chiefly because of their strangeness, but what is now desired is a very large number of accounts of the ordinary experiences as they "run." Printed blanks have been prepared on which replies to certain simple questions may be written. All persons, and especially hospital surgeons, officers of medical societies, and instructors in medical schools, are respectfully requested to send to the undersigned for as many of these as they care to distribute among individuals who have been under an anesthetic within a period not too long to prevent accurate recall of the facts. The blanks will be gratefully sent (and received when filled out) by George V. N. Dearborn, M.D., Physiological Laboratory, Harvard Medical School, Boston, Mass.

**Housing Members at the Congress.**—The secre-



tary-general of the International Medical Congress has issued a notice saying that the Paris executive has been considering the important question of housing foreign members who attend the congress. The rector of the Academy of Paris will place at the disposal of the General Committee 800 beds in the various lycées at Paris during the congress week, and it is hoped that an additional 200 may be obtained, making a total of 1000. The price of each bed is fixed at five francs fifty centimes a day, \$1.10, to comprise bed, attendance, and the eight o'clock "petit déjeuner." The beds are in dormitories, and not in separate rooms. Nothing is yet decided about the distribution of these beds. The chief Parisian excursion agents are now ready to receive applications for rooms from intending visitors who do not patronise Messrs. Cook & Son, the agents recommended by the English committee. The names of the French agencies are (1) "Voyages Duchemin," 20 Rue de Grammont, Paris; (2) "Voyages Modernes," Rue de l'Echelle, No. 1, Paris; (3) "Voyages Pratiques," 9 Rue de Rome, Paris; (4) "Agence Desroches," 21 Rue de Faubourg Montmartre, Paris; (5) "Agence Lubin," 36 Boulevard Haussmann, Paris.

**Program of the Congress.**—The program of the Congress of American Physicians and Surgeons, to be held at Washington, D. C., May 1, 2 and 3, 1900, is as follows: There will be a general session in the afternoon of Tuesday and of Wednesday.

**Tuesday.**—Papers will be read as follows: Prof. Theobald Smith of Boston, "Adaptation of Pathogenic Bacteria to Different Species of Animals;" Dr. Samuel J. Meltzer, of New York, "The Physiological Resources of the Body in Its Defense against Bacteria and Their Toxic Products;" Prof. Harold C. Ernst, of Boston, "Flagella and Serum Reactions;" Dr. Richard C. Cabot, of Boston, "Relation of Bacteriology to Clinical Medicine;" Dr. Edward R. Baldwin, of Saranac, New York, "Bacterio-Therapeutics with Especial Reference to Tuberculosis;" Prof. William S. Thayer, of Baltimore, "The Aetiology of Malarial Fevers;" Prof. George Dock, of Ann Arbor, Mich., "Infection by Animal Parasites;" Prof. Simon Flexner, of Philadelphia, "Bacteriology of Dysentery."

**Wednesday.**—Prof. William Osler, M.D., LL.D., of Baltimore, "Modern Therapeutics;" Dr. Clarence J. Blake, of Boston, "Sociological Status of the Physician;" Poem by Dr. S. Weir Mitchell, M.D., LL.D., of Philadelphia, "The Evolution of the Physician." 8 P. M., address by the President of the Congress, Prof. Henry P. Bowditch, M.D., LL.D., D.Sc., "The Medical School of the Future," to be followed by a reception.

**Thursday.**—8 P. M., banquet of the members of the Congress.

**The Plague at Manila.**—We noted last week that the plague was reported at Honolulu. This news has been confirmed. This week comes the

official announcement that plague has broken out among the natives at Manila. Its occurrence, however, is not looked upon with alarm. It has been expected for some time. The strictest quarantine will be enforced with regard to vessels coming from that port, and the Marine Hospital Service already has a party of experts on the ground and more en route to take charge of the city. Surgeon-General Sternberg gives the positive assurance that Colonel Greenleaf, the Assistant Surgeon-General and Chief Surgeon of the United States army in the Philippines, is exceptionally well fitted to cope with the present emergency. He has all the resources needed at his command and there is no doubt that the disease will soon be stamped out. So far, in the East the disease has practically always been confined to the native population. This is notably true of Hongkong, where it has existed for many months, without causing any considerable fatality among the European population. It was probably from Hongkong that the disease found its way to Manila. The medical officers at all times have been on the watch to prevent this, but owing to the short distance from Hongkong to Manila, and the large amount of traffic carried on in a small way by native junks and dhows, the ultimate introduction of the disease into Manila was inevitable. Up to the middle of the week six cases and four deaths had been reported there. The disease was sporadic in various places, not epidemic at a single point.

**Reciprocity of State License.**—The following resolution was adopted by the Illinois State Board of Health, October 10, 1899: Resolved: That applicants for a State certificate to practise medicine and surgery in the State of Illinois, who have been examined and licensed by other State Examining Boards maintaining standards not lower than those provided for in the Act to regulate the Practise of Medicine in the State of Illinois, in force July 1, 1899, shall be granted certificates without further examination, on payment of the fees required by the Act, providing that the applicant, who must be a graduate of a medical college in good standing with this Board, shall present with his license an affidavit from the president or secretary of the State Examining Board showing that the requirements of said examining board at the time of his examination were equal to those exacted by this Board under the present law, and providing, further, that the said State Examining Board will grant licenses without examination to applicants holding certificates issued by the Illinois State Board of Health under the act now in force.

**NOTE.**—Under the provisions of the Act to Regulate the Practise of Medicine in the State of Illinois in force July 1, 1899, an applicant for a certificate to practise medicine and surgery in the State must present evidence of being a graduate of a medical college in good standing as may be determined by the Board, and must pass an examination in those general subjects and topics,

a knowledge of which is commonly and generally required of candidates for the degree of doctor of medicine by reputable medical colleges in the United States. No medical college will be considered in good standing after January 1, 1900, which does not require of all graduates receiving diplomas after that date, as a condition of graduation, an attendance upon four full courses of lectures in four separate years.

**Medical News from Seat of War.**—Sir William MacCormac and Mr. Frederic Treves are finding abundant occupation in South Africa from the sad results of the past two or three battles. No less than four train-loads of wounded have been brought into Maritzburg to the hospital from the battle of Colenso alone. Mr. Treves is operating incessantly and Sir William MacCormac superintending the collection and transfer of the wounded. An interesting illustration of the fact that it is bacteria rather than bullets which the soldier has to dread among the risks of war was given this week in the return of one of the sick transports. Out of a total of some hundred and thirty invalided officers and men, less than one-third were suffering from the results of battle-wounds. This minority, however, included *all* the officers, among whom the battle-mortality has been something terrible, as the "traditions of the British army" most stupidly forbid their taking cover or even lying down, and the Boer marksmen make a special point of picking them off. Now, however, common sense has triumphed and they are not only ordered to take any reasonable advantage of cover and lie down with their men, instead of marching up and down in front of them as hitherto, but to dress in khaki without a sign of ornament and carry a rifle instead of the foolish and useless sword, which simply served to attract the enemy's fire.

Almost every returning transport brings its wan but plucky and cheerful burden of sick and wounded, who are promptly distributed among the various military hospitals, Netley receiving the lion's share. Offers of accommodation from homes and hospitals continue to come in almost daily, one of the latest being from Devonshire in the West, but so far the army establishments have been found adequate to the demands.

A new service-rank has been proposed for the Army Medical Corps, that of "doctor's messenger." A plucky and enterprising Australian youth of ten has suggested it and created quite a furor by volunteering to accompany the next regiment from Melbourne in that capacity. And no doubt a handy boy could be of great service in fetching and carrying for the surgeon in his improvised field operating-room, when perhaps a grown man could hardly be spared from bearer-service. So long as infants of from ten to fourteen years are allowed to accompany the troops in the field and run into battle, as drummers, buglers, etc., there seems no reason why similar Lilliputians should not be enlisted upon the lifesaving side of the force. Some doctor's messen-

ger may one day gloriously eclipse the unhappy record of little Bugler Shurley, who "cried to be taken into battle," and then shot three Boers with his own revolver. One life saved would beat this 1000 per cent.

Sir William Thompson, K. B., late President of the Royal College of Surgeons, has been appointed chief surgeon to the English forces in South Africa. Major Baly and forty-one men of the British Medical Corps, who were left at Dundee when their fellows evacuated the town, were released by the Boers and were permitted to proceed to Delagoa Bay.

## OBITUARY.

WILLIAM A. HAMMOND, M.D.

WILLIAM A. HAMMOND, M.D., ex-Surgeon-General of the United States army, died at his residence, in Washington, at 9 p. m., Friday, January 5th, having been stricken with heart failure after the hurried ascent of a flight of stairs; death came almost immediately. Dr. Hammond was born at Annapolis, Md., August 28, 1828. He was graduated at the Medical Department of the University of the City of New York, and entered the United States army in 1849 as an Assistant Surgeon, with the rank of First Lieutenant. In October, 1860, he resigned to accept the professorship of anatomy and physiology in the University of Maryland. At the beginning of the Civil War he again entered the army, and was assigned to the organization of general hospitals in Hagerstown, Frederick and Baltimore. Afterward the Sanitary Commission urged his appointment as Surgeon-General of the army, and in April, 1862, he received this commission with the rank of Brigadier-General. He instituted radical changes in the organization of his department and managed his official business with great ability. With keen appreciation of the wonderful opportunities for instructive and unusual specimens of gun-shot injury he established the Army Medical Museum at Washington, and suggested the plan of the Medical and Surgical History of the Rebellion. Unfortunately his career was abruptly closed and his reputation clouded by a charge of irregularity in the award of contracts for medical supplies. He was tried by court-martial and dismissed from the army August, 1864. He then removed to New York, where he practised his profession, making a specialty of diseases of the nervous system, and promptly established himself as a recognized authority. He was professor of diseases of the mind and nervous system successively in Bellevue Hospital Medical College and in the Medical Department of the University of the City of New York. Later he joined with others of his colleagues in founding the New York Post-Graduate Medical School.

In accordance with an act of Congress, which was passed in 1878, the President of the United States was authorized to review the proceedings

of the court-martial. As a result of the President's investigation Dr. Hammond, in August, 1879, was exonerated and restored to his place on the rolls of the army as Surgeon-General and a Brigadier-General on the retired list.

Dr. Hammond was a voluminous writer upon subjects connected with his specialty and contributed frequently to current medical literature. He founded and edited the *Maryland and Virginia Medical Journal*, and was one of the organizers of the *New York Medical Journal*. He established and edited for a time the *Quarterly Journal of Psychological Medicine and Medical Jurisprudence*. Dr. Hammond was a man of commanding presence, and possessed of extreme self-confidence and remarkable personal magnetism.

Two children survive him, Dr. Graeme Monroe Hammond of New York, and the Marchioness of Lanza, formerly Miss Clara Hammond. His remains were interred at Arlington Cemetery with full military honors.

## CORRESPONDENCE

### THE MEDICAL PROFESSION AND THE PROPOSED CHANGES IN THE NEW YORK STATE UNIVERSITY.

To the Editor of the MEDICAL NEWS:

DEAR SIR:—At the time of the creation of Boards of Medical Examiners in this State, in 1890, it was found difficult to determine the proper and most fitting place in which to lodge the authority requisite for their administration. After long discussion, during which various plans were suggested, as, for instance, having the members of the Boards appointed by the Governor, by the Board of Health, etc., none of which were satisfactory, it was decided to lodge that power in the Board of Regents, for the reason that it was the only place in which the power of appointment could be located without danger that medical education might become the spoils of partisan politics. The original constitution, mode of election and life tenure of the members of that Board were such that it would necessarily be absolutely non-partisan and impartial. That this must be so was a self-evident fact.

(1) Because it comprised within its membership Presbyterians, Methodists, Unitarians, Quakers, Episcopalians, Roman Catholics, Baptists, and men of no religious belief—in a word, it was a Board from which no man, possessing good character and suitable educational attainments, could be excluded on account of any peculiarity of belief.

(2) This safeguard was reinforced by the fact that its members, having been elected for life or good behavior, would be under no necessity of looking for re-election, and hence that class of temptations which beset the members of any board chosen for only a brief term of years would not appeal to the members of this Board.

(3) Moreover, at that time the Board of Regents had already been in existence for ninety-six years and no charge of partiality, partisanship or sectarianism had ever been alleged against it. This is one of its most estimable features. In the language of a former Chancellor, the late George William Curtis, "the highest tribute to the Board of Regents is the *truth* that although every member is necessarily elected by a party vote, yet at the door of their council chamber, party vanishes and politics disappear." It is a department of the State from which all political, personal and sectarian influences have been entirely eliminated. All its deliberations are conducted in the spirit of the Virgilian motto, "Tros Tyriusque mihi nullo discrimine agetur."

The writer can testify that every case which has arisen in the course of the eighteen years during which he has been a member and a regular attendant upon its meetings, has been decided solely upon its merits. The Board of Regents is, therefore, a central, educational and administrative body, which is at the same time an impartial court (the exact analogue of which exists in no other State) to pass upon the preliminary requirements for medical education, and to supervise and conduct the examinations for medical licenses to practise. It may be here said, in passing, that an attempt is at this time being made in other States to adopt the New York Medical Law. It has failed in several cases for the reason that in those States there is no similarly constituted body in which to lodge the authority for their construction and supervision. There are Boards of Regents, it is true, in several of our sister States, but they are elected for comparatively brief terms of office, and from want of permanence of tenure do not have the same independence which has always characterized this Board, whose members, fortified by years of experience, have devoted themselves to unrewarded public service, with no compensation save the consciousness of having to the best of their abilities performed their duty to the commonwealth. It is now an honorary life office, without pecuniary compensation of any kind, except the reimbursement of the necessary traveling expenses of its members, and as such has commanded the services of men of the highest character in the State. It requires both time and experience to become familiar with its multiplied and varying duties, and it would not be worth while to attempt it for a brief term of years without compensation.

The changes which have been proposed by four of the seven Unification Commissioners cannot but be mischievous. These gentlemen advocate the appointment of the first Chancellor of the proposed Department of Education by the Governor with the consent of the Senate, to which arrangement the other three members of the Commission are opposed.

While no one has a more exalted estimate of the character, independence and courage of his convictions, of the present occupant of the guber-



natorial chair of this State than has the writer, yet, should the plan urged by the majority of the Commission go into effect and the appointment of a Chancellor devolve upon his Excellency, Theodore Roosevelt, it would still be very unfortunate for the reason that such an example having been once established, other Governors might use the power for purely political purposes. Says the *New York Tribune* in an able editorial article, January 6th, "It is safe to predict that a political power affecting twelve thousand common schools, more than thirty thousand teachers, and nearly every family in the State, if it were once lodged with the Governor and Senate, would never be surrendered by the politicians to a non-partisan body beyond their reach. Mr. Melvil Dewey from an experience of eleven years, in a letter to the Governor in which he opposes other features of the report, uses the following emphatic language: "There is another consideration at least tenfold more important than this unification and that is that education in this State should be kept absolutely free from the domination or interference of partisan politics." And again, "I am forced to believe after mature deliberation that the danger of injury to our educational interests, if their plan should be adopted without material modification, is vastly greater than any possible good that may come from the improvement suggested."

The existing mode of constitution and tenure of office of the Regents has worked admirably for 115 years. The life tenure puts its members beyond political control, and, as has been well said by another: "The fact that the members are beyond political control discourages political manipulators from seeking to elect as regents the kind of men who are submissive to political control, and has thus placed upon the Board men whose motives have always been above suspicion."

That there is great danger of lowering the standard of medical education from any radical change in the constitution or life tenure of the Board is evident. This Board has administered the system of medical examinations which has done so much to elevate the character and standing of the profession in this State, and which by scholars and publicists is conceded to be the most perfect in the world, with an independence and impartiality which can be expected only from a board constituted as this has been. Its supervision of the ascertainment of the qualifications of members of the medical profession meets with the approval of the educated members of the profession everywhere and of all schools of medical belief. Why, then, should it be changed? I am unwilling to believe that the Legislature will consent to it, and I trust that the thinking men of our profession will urge upon their representatives in that body the wisdom of standing by the existing system as it has been handed down to us by the fathers of the State.

Wm. H. Watson, M.D.

Utica, New York, January 8, 1900.

#### OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, January 1, 1900.

DEATH OF SIR RICHARD THORNE—LONDON HOSPITAL FUNDS—LEAGUE OF MERCY—SCHOOL ATTENDANCE—DIPHTHERIA IN GIRLS—PROF. U. C. TIRARD'S APPOINTMENT—BORACIC ACID AGAIN AS A FOOD PRESERVATIVE.

THE death of Sir Richard Thorne comes as a grievous surprise to the profession, as it was only a few days ago that he was taking a most active part in the warm debates of the General Medical Council. Although a prominent figure in sanitary and medical circles for thirty years past his age was only fifty-eight so that years of usefulness in his high position as principal medical officer to the Local Government Board were yet expected of him. Sir Richard was a St. Bartholomew's Hospital man and a graduate of the University of London. At thirty years of age he was appointed a medical inspector to the Privy Council, and ever since then has been prominent in matters connected with the public health. He has been official delegate to most of the great international sanitary conferences and a prominent member of the Royal Commissions upon Tuberculosis and Sewage Disposal, a Fellow of the Royal Society, a Fellow of the Royal College of Physicians, lecturer and examiner in Public Health to the Universities of Oxford and Cambridge, and to St. Bartholomew's Hospital; honors crowded upon him until he was knighted in 1897.

His contributions to medical literature consisted of papers upon "The Origin of Infection," "The Progress of Preventive Medicine During the Victorian Era," "The Natural History and Prevention of Diphtheria," and what attracted the widest attention of all, the Harleian lectures of last year upon the "Prevention of Tuberculosis." These admirable addresses stirred the popular mind in an extraordinary manner and had much to do with stimulating the agitation, resulting in the formation of the National Association for the Prevention of Consumption. His graphic statements as to the spread of tuberculosis through diseased milk, and the alleged increase of *tabes mesenterica* in children as connected with the wider use of milk as an infant-food, attracted special attention.

The report rendered at the annual meeting of the Metropolitan Hospital Sunday Fund showed that the total collections of the past year aggregated nearly \$270,000, an increase of \$65,000 over the previous year. If the Prince of Wales Fund can manage to equal this, the regular annual deficiency between income and expenditure of the great city hospitals, estimated as at least \$100,000, will be practically made good.

In not very favorable contrast to this record of growth, comes the preliminary report of that delicately-perfumed and highly aristocratic organization, the League of Mercy, organized nearly a year ago. It will be remembered that

this was a most select scheme of hospital fund-collecting organization, headed by the Prince of Wales and officered by half the titled personages of England, each of whom was to have the power of appointing committees of plebeians, every member of which was to make herself responsible for the collection of a certain sum to be extorted from her suffering friends. We described it at the time as a sort of charitable "snowball-scheme" under aristocratic patronage and gravely doubted its wisdom and prospects of success. The outcome, so far, seems to have justified the position, for it was announced to the meeting that although 883 vice-presidents and lady vice-presidents had been nominated and eighty-two branches organized, the net outcome of nine months' polite activity had reached barely \$22,000, and of this only \$5000 had so far been forwarded to the Hospital Fund. So that the society lady, *pur sang*, as a charity-collector does not seem the success which had been expected. After all it is your self-made man who parts with his money most generously and freely, and the noble collectors may have worked too exclusively in their own set.

Prof. W. R. Smith, medical officer to the London School Board, in the second of his Harleian lectures upon diphtheria this week, dealt chiefly with school attendance as a factor in the spread of the disease. From the careful study and comparison of a large number of statistics, American and Continental, as well as English, he is inclined to the consoling conclusion that school-attendance is a comparatively unimportant factor in the spread of the disease, and that the chances of communication through the play of children upon the street and in each others' homes, are rather increased by closing the schools, and constitute almost as great a danger.

He called attention to the serious increase with age of liability to the disease in girls as compared with boys, growing from a slightly lesser mortality during the first year to an equal one in the third year and reaching an excess of thirty per cent. between the fifth and tenth years. The careful comparison of the different influences surrounding boys and girls during these school years has failed to account for this marked variation of liability and fatality.

Prof. U. C. Tirard has been appointed to the Chair of Medicine in Kings College, vacant by the resignation of Prof. L. Burney Yeo.

A writ of attachment has been issued by the Queen's Bench against all the Leicester Board of Guardians as a result of their first delay, and their evasive pretence at appointing a vaccination-officer. The writ gives opening until the fifth day of the next sitting for the Guardians to make a genuine compliance.

Another of the unfortunate differences of medical expert opinion which are so lamentably common, has occurred before the Committee on Food Preservatives this week *in re* boric acid. The use of this was condemned upon the sound and well-known grounds so often presented by

Prof. Boyce and Dr. Amsett, of University College, Liverpool, but Dr. Robert Bell, of Glasgow, actually took up the cudgels vigorously in its defence, alleging that it was less harmful than either salt or saltpeter, was invaluable in surgery, had saved many lives by its prolonged use as an antiseptic, etc., etc. All these statements are, of course, true enough, but they have nothing to do with the question at issue. Salt and saltpeter are self-limiting as to the proportion in which they can be used on account of their taste, while boracic acid may be present in considerable quantities without detection. Hence the man who buys over-salt butter knows just what he is doing, while he who buys borated milk does not, and this is precisely the point in discussion, one of selling under false pretenses.

#### TRANSACTIONS OF FOREIGN SOCIETIES. French.

INFLAMMATION OF THE ETHMOIDAL CELLS—INADEQUACY OF POLICE REGULATIONS TO CONTROL THE SPREAD OF SYPHILIS—IMPROVEMENTS IN THE TECHNIC OF GASTRO-ENTEROSTOMY—VARIATIONS OF TEMPERATURE DUE TO HEMORRHAGE—OPERATIVE AND NON-OPERATIVE TREATMENT OF COXALGIA—UNUNITED FRACTURES CURED BY THYROID GLAND—CURE OF THE MORPHIN HABIT—DEATH FROM CALOMEL—KERNIG'S SIGN PRODUCED BY MENINGEAL HEMORRHAGE—IPECAC TO CONTROL HEMORRHAGE—ANESTHESIA PRODUCED BY INJECTION OF COCAIN INTO THE LUMBAR CORD.

At the Academy of Medicine in Paris, November 7th, Koenig called attention to an inflammation of the ethmoidal cells, characterized by a hyperplastic periostitis, always situated in the upper and internal portion of the orbit. After the usual symptoms of an acute coryza, a little non-fluctuating tumor, painful on pressure, appears in the inner angle of the orbit. It is accompanied by a slight edema of the eyelids. The acute symptoms subside in a few days and leave the periosteal tumor. If one cuts into it only blood will be obtained. The prognosis is a favorable one for, unlike empyema of the ethmoidal cells, the process tends naturally toward recovery.

At the session of November 14th, Fournier admitted the entire inadequacy of police regulations to control the spread of syphilis. The only prophylactic measure which is of practical value is the thorough treatment of syphilitic patients. Unfortunately their treatment is usually not carried out for a sufficient length of time. It would be a great help toward protecting the community from syphilis if every general hospital would make an especial effort to treat syphilitic patients and if additional opportunities were furnished toward the same end in all parts of the city. If dispensary classes for this sole purpose were arranged so that the patients would lose a minimum of time, and could call at an hour best

suitied to their work, they would keep up their treatment for a longer period than at present and the spread of the disease would be greatly limited.

At the Surgical Society, October 25th, Tuffier described a posterior gastro-enterostomy performed on account of a pyloric tumor. The operation was entirely successful. Some weeks later no tumor could be felt, and one is, therefore, justified in concluding that it was of benign character. The operation showed that it is quite unnecessary to employ clamps to keep back the contents of the stomach or intestine. The tension upon these parts as they are drawn out of the wound is sufficient to prevent escape of their contents. It is a good thing to wash out the stomach after gastro-enterostomy has been performed. Annoying vomiting may be cured in this way and lavage will show the amount of hemorrhage which has taken place into the stomach, and will also remove the blood. Before making up his mind that a tumor of the stomach has disappeared the surgeon should be sure that it is not concealed beneath the ribs, as a mistake of this nature has more than once occurred.

Poirier mentioned an instance in which he had been deceived in the disappearance of a tumor of the umbilical region. Three months later he found a tumor under the ribs which was doubtless the same one, drawn up there by the contraction of the gastro-hepatic epiploon due to infiltration of the neoplasm.

Schwartz saw a gastric tumor disappear within four weeks after the performance of a gastro-enterostomy. He concluded that it was benign, and of an inflammatory nature. When he saw the patient again, less than a year later, he felt nodules, which he was sure were metastatic ones. The tumor was undoubtedly cancerous and had been drawn under the ribs by the retraction of the pylorus.

Ricard spoke of the importance of stopping all hemorrhage. He lost one patient after pylorotomy from bleeding into the stomach. It is not sufficient to rely upon the suture to control all bleeding points. The larger vessels should be separately tied.

On November 8th Routier showed a patient upon whom he had operated for extra-uterine gestation. As she had had several chills, each one of which had been followed by a rise in temperature and an increase in the size of the tumor, he was surprised to find that there was no suppuration but simply an aseptic hematocoele. No cause, other than the hemorrhages, could be assigned for the rise of temperature.

Pozzi said that hemorrhage is accompanied by a fall in temperature, but that the absorption of effused blood may cause it to rise.

Tuffier treated a patient with hemothorax. A rise in temperature made him suspect suppuration and he aspirated. Aseptic blood was withdrawn. In this case the rise of temperature followed the hemorrhage by a considerable interval.

At the session of November 22d, Nelaton advocated resection of the hip-joint for coxalgia. The results obtained in adults and adolescents compare favorably with those obtained by conservative methods.

Felizet traced one hundred children who suffered from coxalgia in infancy and found that all excepting twelve of them had died of the disease or its complications. Under such circumstances a radical operation is not out of place, and he has performed it on three hundred children. The results have been generally satisfactory. The shortening is usually not more than one to two inches, but it may reach two and five-tenths to three and five-tenths inches. Even with the maximum shortening it is easy for the patient to walk if he wears a suitable apparatus.

Kirmisson took quite a different view of the subject. He advocated conservative treatment; early injections of iodoform in ether, etc., rather than operation, especially in the case of children. Many times resection is followed by a sinus because the operator is not able to remove all of the diseased tissue. He had recently examined ten patients who had undergone resection of the hip-joint for tuberculosis. Three of these patients presented fistulae; the thigh in four was held at a vicious angle, while no one of the ten had less than two and one-half inches of shortening, and in some of them the shortening amounted to six inches. It is often no advantage to have mobility at the hip-joint, as a patient may be prevented from walking by this very mobility. December 6th the discussion of this subject was continued. Schwartz reported a successful excision of the hip in a child aged fifteen years. Ten years later there was only one and three-quarter inches of shortening, and the patient walked and rode a bicycle with ease. By operation upon patients in whom the disease is more extensive, such a good result cannot always be obtained. He had recently operated upon such a one a second time without getting beyond the disease.

Consolidation in ununited fractures brought about by the administration of the thyroid gland was the subject of some remarks by Potherat, who reported that two patients had been thus treated with success. The treatment lasted from ten days to two weeks. One patient developed symptoms of cerebral hemorrhage on the eleventh day. Other observers have reported similar successes with thyroid medication, which cannot, however, be unreservedly advocated on account of the alarming symptoms which follow excessive doses.

At the Medical Society of the Hospitals, November 10th, Joffroy described some of his successes in curing patients of the morphin habit. He laid down two all-important principles: (1) Never attempt to demorphinize a cachectic patient. First improve his nutrition and build up his strength; (2) keep the patient in ignorance of the precise day in which the reduction of the



drug begins, and continue this plan until the poison has been completely suppressed. The fear of suppression of the drug greatly aggravates the symptoms caused by its withdrawal.

On November 17th Gaucher gave the history of a patient whose death had been caused by the subcutaneous injection of calomel to the amount of two grains. Four months elapsed between the injection of the mercury and the death of the patient, but owing to the insoluble character of the mercury its absorption would necessarily be slow.

At the session of November 24th, Widal spoke of Kernig's sign, produced by meningeal hemorrhage. The subject was a man aged thirty-eight years, who suffered an apoplectic stroke while apparently in full health. He regained consciousness in some hours. He presented neither fever, paralysis nor muscular contraction, but complained of an intense headache and lumbar pain. The pupils were slightly dilated. Kernig's sign (ability to hold the leg extended on the thigh, while lying down, but inability to do so while sitting in a chair) was present and the question of meningeal hemorrhage was at once raised and settled affirmatively. Nine days later the patient died. Much fluid blood and a large clot were found in the subarachnoid space and the spinal column was full of blood. Neither the convolutions at the base of the skull nor upon its convexity had been pressed upon by the blood. This case showed that Kernig's sign may exist without inflammation.

At the Biological Society, October 28th, Onimus stated that he had long believed that the value of ipecac in the control of pulmonary hemorrhage is due to the nausea which it produces. He has employed it with complete success in metrorrhagia. His practice is to give every two hours a capsule containing 1.6 grains of Dover's powder and one-sixth grain of powdered ipecac. The administration of such capsules until nausea develops will check the abnormal flow of blood and menstruation will cease naturally. During the menstrual intervals the patient should take one powder at bed-time.

At the session of November 11th, Tuffier mentioned the success he had in producing anesthesia by the injection of cocain into the lumbar vertebral canal. By this means he was able to remove an enormous recurrent sarcoma of the hip absolutely without pain. In six minutes from the time the injection was made all sensation below the umbilicus had been lost. Sensation for pain did not return for an hour. This new method of producing anesthesia below the umbilicus merits further trial in suitable cases. The anesthesia produced is perfect, but the amount of cocain employed (2 centigrams in 1 or 2 c. c. of water) is not without danger, as shown by the vomiting and headache produced in certain cases in which it was employed. Instances of vertigo and collapse were not uncommon in the earlier use of cocaine hypodermatically for simple operations.

## SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE—SECTION ON ORTHOPEDIC SURGERY.

*Stated Meeting, Held November 17, 1899.*

A. B. Judson, M.D., Chairman.

**Deformity of Pott's Disease.**—Dr. W. R. Townsend presented a boy, fifteen years of age, who developed Pott's disease in the lower dorsal and upper lumbar region six years ago. Two years ago, having recovered with considerable posterior curvature, after treatment by the plaster of-Paris jacket, he fell from an ice-wagon, striking on his head. Plaster of Paris was re-applied. He presented a projection on each side at about the level of the twelfth dorsal vertebra. The spinous processes could be felt between the elevations, which were very marked and might have been supposed to be calluses following fracture of the ribs near the vertebral column.

Dr. R. H. Sayre said that in addition to the anteroposterior curve there was lateral displacement, which might well have been the result of vertebral fracture.

Dr. S. Ketch said that the bony projections were secondary formations, the result of traumatism and were distinct from the spinal disease.

**Rickets in a Dwarf.**—Dr. Townsend presented a girl, six years of age, 35 inches in height, the average height at that age being between 40 inches and 42 inches. There was enlargement of the epiphyses of the long bones, with an enlarged head, prominent chest and protruding abdomen. She was a mouth-breather, and failure to grow normally might have been due partly to adenoids and insufficient oxygenation. There might have been obstruction in the posterior part of the nose, although the result of inspection anteriorly had been negative. The characteristic appearance of the skin and facial expression of cretinism were absent.

Dr. Sayre suggested enlargement of the air-passage by treating the tonsils and adenoids.

Dr. Ketch said it would be of interest to know whether this relief would promote normal growth.

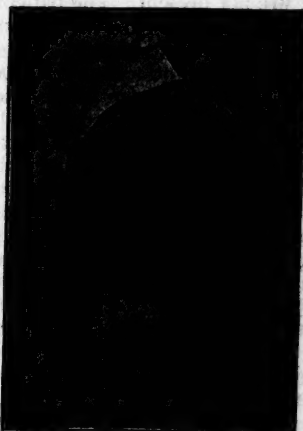
Dr. H. S. Stokes said that the patient was probably a constitutionally lymphatic child, one of a class of patients in whom the administration of anesthetics is attended with danger. Without hastily making a positive diagnosis of this condition, he suggested that the use of anesthetics be preceded by a thorough physical examination.

**Pott's Disease or Fracture.**—Dr. Townsend presented a girl, six years of age, with a very obscure history. Two years ago, when living with her grandmother, after an accident in which she fell down a flight of stairs, striking the back of her neck, a bony prominence had been noticed, with difficult respiration and a habit of support-

ing her head with the hand placed under the chin. Kyphosis was marked, as shown by the accompanying cut, involving the sixth and seventh cervical and the first and second dorsal, with a depression of the upper cervical vertebra.

Dr. A. B. Judson thought that the number of the involved vertebrae pointed away from fracture, and towards Pott's disease. The elements of diagnosis in orthopedic cases might be arranged in the following order of relative importance: (1) Signs (objective); (2) symptoms (subjective); (3) history as given by the mother, and (4) history as given by the grandmother.

Dr. Sayre said that a forward position of the head in cervical Pott's disease is frequently attended by difficult breathing. He thought, however, that the child had suffered a fracture and recalled the case of a man who had fallen down stairs, striking the back of his head. Partial paralysis of the arms developed from pressure. A



Pott's Disease or Vertebral Fracture.

diagnosis of Pott's disease had been made, but the signs and history indicated a fracture.

Dr. Townsend said that the treatment, at least, is not in doubt. The affected vertebra should have complete rest, either by a plaster jacket and head-spring, or by a posterior spinal support and chin-piece. The latter would be less conspicuous and give better support, with or without the addition of supports going up the back of the head, as might be determined by the progress of treatment, which should be prolonged until the disappearance of all signs of an acute condition. Ultimately the patient would carry the head erect without much deformity, as is the rule in cervical disease thus treated.

**Durability of Plaster Jacket.**—Dr. Stokes related the history of a case of Pott's disease in a girl who was four years of age when first seen in September, 1894. The duration of the disease was two months. The tenth dorsal vertebra was affected. The plaster-of-Paris jacket had been applied anew seven times at intervals of from

eight to fifteen months, the average being eleven months. No pain or discomfort had been traced to the apparatus. At the last application, on October 13, 1899, it was found that a small stone had slipped into the jacket and caused an erosion which had healed in a few days.

Dr. Townsend had seen plaster jackets that had been worn two years.

Dr. L. W. Ely cited a case in which the jacket had been reapplied at intervals of thirteen and eight months without excoriation.

Dr. Sayre referred to the case of a child who had worn a solid jacket for two years.

Dr. H. Gibney cited three cases: (1) A boy seen in 1891; aged four years; location, middle and lower dorsal region; emaciation, and a large psoas abscess. The first jacket was worn two months, the second one year, and the third had been applied two months ago. There had been no increase of deformity, the abscess had been to a large extent resolved and the general health had improved. (2) A boy, aged six years; tenth dorsal; first jacket worn three months; the second, eleven months, and the third was applied three months ago. The local condition was favorable, and the health had improved. In the third case, that of a woman of twenty-seven years, a firmly-fitting jacket had been worn for a year without inspection, with freedom from pain and discomfort, and with good effect.

Dr. Sayre cited two cases in which patients had not done well with jackets that were removable, but which progressed favorably towards recovery when the immovable dressing had been applied. In both cases the treatment had been modified in its early stages by the overweening kindness of the grandmothers of the children. He had seen cases in which efforts to replace comfortable jackets by new ones had not been brilliantly successful, it having been a long time before the patient was again made comfortable. For obvious reasons a jacket should not remain in place too long on a child who is growing fast.

Dr. V. P. Gibney said that more important than the question of time is that of applying the jacket so as to give good support and avoid excoriations. A jacket well applied would not disturb the skin and should be durable. In the case reported by Dr. Stokes the trifling excoriation had soon healed and a cure had been effected by the prolonged splinting of the back.

Dr. Sayre said that excoriations can generally be avoided by a careful application of the jacket.

Dr. Stokes said that the percentage of excoriations is small, and in ten cases the trouble had been due to the jacket in four cases and to foreign bodies, little things such as pennies and button-hooks, in six cases. Excoriations caused by a jacket are evidences of a want of skill and experience on the part of the surgeon.

Dr. Sayre said that the skin could be kept clean and healthy by passing a whalebone inside of the jacket and so pulling up and down a fine handkerchief dampened with alcohol.

Dr. H. Gibney said that a solid jacket should be

applied over a long strip of linen or gauze six inches wide, which could be daily wet with alcohol and drawn back and forth.

**Plaster and Steel.**—Dr. Ketch said that the condition of the skin should be made the subject of stated investigation, not to prevent excoriations, but to ascertain whether the diseased vertebral column is being given all the mechanical support which the toleration of the skin warrants. The use of a steel apparatus facilitates an occasional and desirable estimate of possible decrease or increase of deformity, which is impossible with the immovable dressing. Changes in the shape of the patient, from growth or otherwise, should meet with corresponding changes in the pressure made by the apparatus.

Dr. Townsend said that the frequent removal of the jacket or brace is one of the worst things that can be done. It is not practised in the treatment of fractures. In Pott's disease we seek proper anchylosis at the seat of the disease. We therefore immobilize the vertebral column. So long as the jacket is clean and the skin healthy we can forego the doubtful advantage to be gained by frequent inspection and rely on the effectiveness of the apparatus.

Dr. Ketch said that the removal of the brace for alterations, when done with ordinary care, cannot delay or interfere with consolidation. The more scientific procedure is to use an apparatus which is under intelligent surgical control.

Dr. V. P. Gibney had failed to see that important benefits can be gained by taking off the apparatus from time to time. If sure of the diagnosis and of a well-fitting plaster jacket, he is confident of a good result.

Dr. Sayre said that in the cervical region, and anywhere above the tenth dorsal, a jacket should be supplemented by the jury-mast and by a brace to control the shoulders. Traction and control of the movements of the head are very important. He often makes use of a metal and leather support to make a base for the jury-mast.

Dr. H. Gibney commended the method of application in which the patient rests on two untempered steel rods bent to fit the shape and elevated from the table, partly held up by two assistants, who make gentle traction, the rods being drawn out while the plaster is setting.

#### NEW YORK NEUROLOGICAL SOCIETY.

*Stated Meeting, Held December 5, 1899.*

Frederick Peterson, M.D., President, in the Chair.

**Multiple Sclerosis and Muscular Atrophy.**—Dr. Graeme M. Hammond presented a case of multiple sclerosis occurring in the person of a man, thirty-eight years of age, exhibiting symptoms resembling those of progressive muscular atrophy. This combination is quite rare. The patient is a locomotive fireman by occupation and has a good personal and family history. About one

month after an attack of the grip, ten years ago, his present trouble began. The first symptom was a paralysis of the internal rectus of the left eye, and this was followed by weakness of the left superior and the right internal rectus. At the present time, in addition to these symptoms, there is left hemianopsia. About one year ago there occurred a sudden loss of smell on both sides. About six years ago he began to show symptoms of locomotor ataxia. The knee-jerks were absent. Last January he noticed weakness in the little and right fingers of the right hand. This weakness extended to the other fingers and was accompanied by atrophy. The atrophy is now well marked in both upper extremities, and fibrillar twitchings may be noticed in the affected muscles. These muscles respond slightly to the galvanic current but not at all to the faradic. This history is very characteristic of multiple sclerosis. In 1897 a similar case was reported in one of the German journals. In the case presented, true intention tremor and scanning speech are not present. The patient may be suffering from a progressive muscular atrophy engrafted upon a multiple sclerosis, but it is also possible that the sclerotic changes have taken place in an unusual position in the anterior horns. The optic nerves have remained normal.

Dr. B. Sachs said that it is his impression that the case may be almost anything else than multiple sclerosis. This diagnosis does not seem justified in the absence of nearly all of the cardinal symptoms. The case is certainly puzzling, but reminded one of a case of tabes with progressive muscular atrophy, and the President of this Society reported such a case some time ago.

Dr. Joseph Collins said that he hesitates to make this diagnosis after a hasty and superficial examination, nevertheless he cannot but feel that this is a case of locomotor ataxia plus progressive muscular atrophy. It is possible that it is an example of syringomyelia and tabes, for he has had such a case under observation for a long time.

Dr. George W. Jacoby agreed with the last two speakers. Certainly the symptoms in the upper extremities and the optical symptoms resemble those of a nuclear affection, while the symptoms presented by the lower extremities are like those of tabes. It is rather presumptive to make a diagnosis after Dr. Hammond has studied the case so carefully.

Dr. Frederick Peterson thought this patient presented all the symptoms of locomotor ataxia. Atrophies of this kind are not very uncommon in locomotor ataxia. Several years ago he had exhibited to this society a case of typical locomotor ataxia with three symmetrical quadrants of vision lost, so that the person saw out of only one-quarter of each eye. He therefore looks upon the case as a locomotor ataxia presenting the unusual symptoms already cited.

Dr. Hammond replied that at first he had also looked upon his case as one of locomotor ataxia with ocular symptoms, but, on studying it more



carefully, he could not find the slightest indication of syphilitic infection, the man having indeed been singularly free from previous illnesses of any kind. He was temperate in his habits, was not neurotic, and presented an unusually good personal history. Again, his tabetic symptoms have not been at all prominent; the Romberg symptom has been hardly noticeable, and there have been none of the bladder or sexual symptoms of tabes. The fact that there have been lesions of the optic, the third, and the olfactory nerve, coming on respectively at intervals of several years, he looks upon as proof that this is a sclerosis affecting these different nerves. An affection of the posterior columns in disseminated sclerosis is not at all unique. The atrophy in the hands, is, however, decidedly unique.

**Intracranial Growth.**—Dr Phillip Meirowitz presented a man, thirty-eight years of age, who had come to him on December 1, 1899, complaining of amblyopia of the left eye. He is entirely blind in the right eye from an injury inflicted with a piece of steel. The disturbance of vision first appeared in the summer of 1898 and reappeared four months ago. These "blind spells" come on several times a day and last about eight minutes each time. They have continued altogether for about six weeks and have been unaccompanied by pains. A tremor in the right upper extremity also developed about the same time as the trouble with the eyes. Jerking of the right arm has been quite marked at night. Vertical headache has been present and quite troublesome some months ago but is no longer present. About the middle of last July he was seized with attacks of vomiting after taking food, but improved under milk diet and the administration of iodid of potassium. About this time he had a sudden loss of consciousness and again two or three months ago. There is no distinct history of syphilis. Examination shows dilatation of the left pupil and good reaction to light with absence of nystagmus. Tremor of the right arm is quite marked and is aggravated by movement. His gait is good; the knee-jerks exaggerated; there is no ankle-clonus. There are no sensory disturbances. Dr. Valk has examined the eyes with the ophthalmoscope and found a papillitis. There is no mental dulness and no impairment of the memory. The speaker is of the opinion that there is an intracranial growth and believes that its location in the cerebellum accounts for most of the symptoms. He is inclined to believe that it is a syphiloma because of the effect of treatment with the iodid and the lack of definiteness regarding a possible syphilitic infection.

Dr. S. B. Onuf said the patient was under his care at the time that he received the iodid. There was then a staggering gait, a marked intentional tremor, increased knee-jerks and ankle-clonus on the right side. His eye showed marked choked disk and a number of retinal hemorrhages. He at first hesitated between a diagnosis of tumor and multiple sclerosis. Dr. Coffin had expressed

the opinion that the shape of the hemorrhages—small and wedge-shaped—pointed rather toward syphilis. The man was then put upon rapidly increasing doses of the iodid and improved promptly. The dilatation of the pupil and the intentional tremor were noticeably controlled by this treatment. He did not doubt that the trouble was syphilitic, but could not accept the theory that all of the symptoms could be explained by one syphiloma.

Dr. Meyrowitz replied that Dr. Francis Valk, in his recent ophthalmoscopic examination, found the retina entirely normal. The absence of disturbance of speech and of nystagmus and the presence of papillitis seem to him sufficient to exclude multiple sclerosis. It is, of course, quite possible that there are a number of lesions, but in cases in which the symptoms can be explained by one lesion this, of course, seems the more rational.

**Tumor Compressing Cauda Equina.**—Dr. B. Sachs reported two cases of compression of the cauda by tumor, in both of which the symptoms had been relieved by operation. The first patient was seen on September 3, 1897, in consultation with Dr. Wyeth. The second patient presented himself at the Mount Sinai Hospital in the service of Dr. Meyer. The first patient, fifty-six years of age, has been suffering for eighteen months with severe pains in the lower extremity and, more recently, with spasm of the muscles. He was shot in the leg during the Civil War. When seen by the speaker he presented marked cachexia, severe pain and violent spasm. The pain was neuralgic in character and radiated from the lumbar region of the spine down the posterior aspect of the thigh to the foot. The spinal column was not specially sensitive except over the second lumbar vertebra, at which point pressure elicited pains like those complained of ordinarily. There was a distinct diminution of tactile pain and temperature sense at the upper and inner portion of the right thigh. The right knee-jerk was absent. The vesical and rectal reflexes were not impaired. That the neoplasm was extradural was probable because, if intradural, the symptoms would have been more symmetrical. He had urged Dr. Wyeth to operate for the removal of the growth and the operation had been done at once. Upon exposure of the spinal canal a tumor the size of a small cherry was revealed, adherent to the dura and bone. Microscopical examination of this mass showed it to be an alveolar sarcoma. As much as possible of the diseased tissue was removed. Five days after operation the patient was able to be up and around, and had been remarkably comfortable. The spasms had ceased. One month after operation the patient returned to his home in the South.

The second patient, thirty-nine years of age, was admitted to the Mount Sinai Hospital on October 9, 1899. Some years ago he was told he had pulmonary tuberculosis and had lived in California until apparently cured. He was of

emotional temperament, and had come to the hospital with a diagnosis of locomotor ataxia. About one year ago his first symptoms appeared. Examination showed normal reaction of the pupils; no tremor of the tongue or face. There was a distinct kyphos involving the twelfth dorsal and three upper lumbar vertebræ, but there were no tender points except between the third and fourth lumbar vertebræ. There was no marked interference with the vesical and rectal reflexes. The physical signs in the lungs were suggestive of tuberculosis. There were no strictly ataxic symptoms, but there was distinct paresis of the lower extremities. The strictly unilateral character of the sensory changes pointed to a probable growth in the lower portion of the spinal column, but, in deference to those who thought it possible that there was a tuberculosis of the spine, suspension and fixation of the spine had been attempted. This has not yielded any results. The disease is evidently progressive and mercurial and iodid treatment has proved negative. On November 10th, at his suggestion, Dr. Gerster attempted laminectomy on the second and third lumbar vertebræ. At this operation a gelatinous mass was exposed and it was found that the body of the third lumbar vertebra had been invaded by the disease. The tumor extended only to the lower margin of the second vertebra. The tumor was removed. It had evidently compressed the cauda equina. Sections of the tumor showed it to be a small-cell sarcoma. Three days after operation sensation in the leg seemed to be improved. Improvement had been steady, but the patient has been compelled to remain in bed. There is reason to hope for at least a temporary recovery—certainly life has been prolonged by the operation.

Commenting upon these cases, the speaker said the first case had been diagnosticated as a chronic neuralgia previous to coming under his observation. The bilateral distribution of the pain, the absence of marked vesical and rectal symptoms seemed to point to the cauda equina and not to the lumbar enlargement, and the tender spot had served as a valuable guide in both cases. There are few chronic spinal processes that follow the slow course of such spinal tumors. An exploratory laminectomy, if properly done, is practically harmless, particularly if done in the lumbar or dorsal regions.

Dr. Joseph Collins said the cases presented should be a cause for much congratulation on the part of the reader of the paper, as well as of the surgeon who operated. The history of the first case pointed unequivocally to the presence and location of an intraspinal tumor, and he was glad that Dr. Sachs had had the courage to urge operation. He was reminded of a case seen by him in which he had endeavored to have a glioma operated upon, but the surgeons had arrived too late to be of assistance. He felt sure that the mortality in these cases was not so great that neurologists should not be on the alert to diagnose them and urge operative intervention.

Dr. Peterson added his congratulations to those of the last speaker. Tumors in this particular locality were more difficult of diagnosis than in other portions of the cord. One important feature of the paper is the aid that the sensitive area or the deformity afforded in establishing the diagnosis.

Dr. Sachs, in closing, emphasized the point that even if the sensory changes were very slight they should be reckoned with in making the diagnosis. This was well exemplified in the first case. Another point insisted upon was that he had managed by pressure upon a definite point to elicit the same pain as that of which the patient had complained. This had been extremely well marked in the first case.

**Dysphrenia.**—Dr. William Hirsch read a paper with this title. The term "dysphrenia" has been applied to the secondary or sympathetic psychoses in contradistinction to the idiopathic or mental diseases, such as mania and melancholia. The secondary psychoses, which are produced by bodily diseases, are not characterized by the same uniformity of symptoms that mark the idiopathic variety. In the secondary psychoses there are frequent remissions with perfect lucidity during the course of the disease. Outbreaks of violence may be quickly followed by stupor. A further characteristic is the occurrence of somatic symptoms as loss of pupillary or patellar reflexes, rise of temperature, irregularity of the heart action and certain vasomotor phenomena, such as edema. In the secondary psychoses, the interstitial tissues and particularly the blood-vessels are the ones at first and mainly affected. This is in accordance with the accepted pathology of the systematic spinal diseases. The changes in the interstitial tissues are produced by the diseases starting outside of the brain, such as the acute febrile diseases. There are a few cases in which, purely from the mental symptoms, one is justified in making a diagnosis of dysphrenia, even though ignorant of the exact nature of the underlying bodily disease. A case of this kind was then reported by Dr. Hirsch. The patient was a young, neurotic girl, seen by him first on September 5, 1896. She then presented the condition of hallucinatory confusion. After an interval of quiet, on February 17, 1897, she became violent, and developed hallucinations of hearing and sight. At this time the temperature was normal. After about ten days she became stupid, her pupils were contracted, and the pulse was sixty. After about one week, automatic movements of the hands and head appeared. On March 14th menstruation came on and she quickly became normal and remained well for ten days. In April, 1897, she was given thyroid extract and quickly recovered. She remained well for nearly two years. On February 2, 1899, she unexpectedly developed the same violent symptoms as before. She showed some transitory improvement again under the administration of thyroid extract, but soon passed into a condition of dementia. After about three months she be-

came quieter; the pupils and patellar reflexes returned; the temperature became normal and her breasts, which had been much enlarged, returned to their natural size. Since that time her mental state has been good. The clinical features of this case evidently do not correspond to any primary psychoses. A loss of reflexes is generally considered as indicative of permanent change, but it is not impossible that this symptom may exist in functional disturbance. In the case just reported the menstrual disturbances are not the cause but a symptom of the disease, as in the fourth or worse attack menstruation had little or no effect on the mental state. The speaker suggested that the term "originary (or idiopathic) dysphrenia" should be applied to those cases, which, in their clinical aspects, resembled those known to be produced by toxic or infectious agents, but in which no cause for such infection could be found.

Dr. Brown said that he had been deeply interested in the paper and had seen a number of somewhat similar cases presenting a physical basis for the mental disorder. In some cases of even very severe mental disease the mental symptoms clear up during the later stages, for example, of tuberculosis.

Dr. Mary Putnam-Jacobi asked Dr. Hirsch if he looked upon general paresis as a secondary psychoses, and also in what way the case of dysphrenia reported by him differed from recurrent attacks of hysterical insanity; also how far the failure to distinguish personality was really a mental symptom and how much the result of personal caprice.

Dr. B. Sachs said that probably all present had seen cases similar to the one described. He has had under observation a number of women between the ages of fifteen and twenty who have passed through very remarkable periodical mental changes. He was much impressed with the suddenness with which these changes had occurred. All of these patients were members of strongly neuropathic families. They passed quickly from a condition of mania to one of depression. A patient now under his care has regularly had periods of six months or more in which she has been in a condition of maniacal excitement, and has then very suddenly passed into a condition apparently normal, but really only a stepping-stone period of excitement. It was questionable, in his mind, whether the class of cases spoken of in the paper represented a distinct entity in mental diseases. Such marked physical changes as described in the paper have not come under his observation.

Dr. Peterson expressed his belief that dysphrenia would be a convenient term for those cases that would be difficult to describe under other names. The trouble is that these terms in psychopathy are usually founded upon clinical symptoms, with but little reference to the pathology, so that after a time the word comes almost to include all insanity. Last summer, at Heidelberg, he found about four varieties of insanity recognized, *vis.*: paresis, senile dementia, cata-

tonia, and dementia precox. About fifty per cent. of the cases in Germany at the present time are called catatonia, and the balance are included under the term dementia precox.

Dr. Hirsch said it was certainly remarkable how many insane patients pass through a disease like typhoid fever without developing any mental symptoms—indeed, the patient whose history has been given has just passed through a typhoid fever in this way. He, too, recognizes the great evil that results from introducing names into psychiatry, but dysphrenia is not a new name, and certainly is useful in connection with a case like the one reported, which could not be well placed in any other classification. Dr. Sachs has referred particularly to circular insanity—to cases essentially chronic in their nature—but he had been discussing cases that were really acute. The mental disease consists of a series of psychopathic conditions. The diagnosis of dysphrenia can only be made from a detailed history and long study. By a primary psychosis he means a mental disease originating in the parenchyma of the organ; by a secondary psychosis, one originating in the interstitial tissue; hence general paresis is a secondary psychosis.

## SELECTION.

### A SURGICAL EPISODE OF THE PENINSULAR WAR.<sup>1</sup>

TO UNDERSTAND something of the grim realities of war we must place it, as it were, under the microscope by studying records of individual cases. Such a case may be found in the memoirs of Captain Boothby,<sup>2</sup> who was wounded in the Peninsular War, and left in the hands of the enemy. The story of his sufferings will further serve to give an idea of military surgery in the early days of the present century.

Captain Charles Boothby was an officer of the Royal Engineers, who was present at the battle of Corunna, and in July, 1809, was wounded at Talavera, his leg being shattered by a musket ball. After the battle he was carried by four men on a bier to the town of Talavera.

The men were hampered by their arms and accoutrements, and the irregular motion caused the wounded man excruciating agony. The road lay through a thick wood; alarms of ambuscades were frequent, and the bearers often laid their burden on the ground while they reconnoitred. It was three hours after the receipt of the wound that the hospital was reached. From the hospital he was carried to a lodging in the town. There a surgeon (Mr. Bell) cut off his boot, and, having examined the wound, said there was no chance of saving the leg, and the amputation must be above the knee. He passed a night of agony, and at dawn Mr. Bell went to the hospital to seek an-

<sup>1</sup> From the British Medical Journal, December 23, 1899.

<sup>2</sup> A Prisoner of France. The Memoirs, Diary, and Correspondence of Charles Boothby, Captain Royal Engineers, during his last campaign. London: Adam and Charles Black. 1898.



other surgeon, Mr. Higgins. It was several hours before the latter came, and when he at last made his appearance it was only to tell Boothby that there was but one case of instruments, which it was impossible for him to bring from the hospital, while crowds of wounded, both officers and men, were begging for assistance.

Higgins came again in the afternoon, bringing with him Bell and another surgeon named Gunning with instruments. Boothby resigned himself into their hands. The surgeons, having examined the wound, went to another part of the room to consult, after which they withdrew "to bring the apparatus," as Boothby thought. Hours, however, passed without their return, and Gunning, having at last been found, said he was too much occupied. Boothby then said to his servant to go again into the street, and bring the first medical officer he happened to fall in with. He soon returned, bringing with him Mr. Grasset, of the 48th Regiment. He on examining the wound declared that he was by no means convinced of the necessity of the amputation, and would on no account undertake the responsibility of so serious a measure without consultation.

The conversation that followed gives such a picture of the surgery of that day that it may be quoted:

"But," said I, "I suppose an attempt to save the leg will be attended with great danger?"

"So will the amputation," answered Mr. Grasset; "but we must hope for the best, and I see nothing to make your cure impossible. The bones, to be sure, are much shattered, and the leg is much mangled and swollen; but that may all suppurate and come right, so that I cannot think of amputating without more advice. But have you been bled, sir?" he asked.

"No," said I.

Mr. Grasset thought bleeding absolutely necessary, and at Boothby's request he bled him in the arm.

It appeared afterwards that Gunning's departure was due to his conviction that gangrene had already set in, and that it would be cruel to disturb Boothby's dying moments by a useless operation. As the wounded man had taken nothing but vinegar and water since his misfortune, the bleeding was succeeded by an interval of "painful unconsciousness."

In the evening another surgeon, named Fitzpatrick, came at his request to see him. The surgeon said, as soon as he looked at the wounded limb, that if he had him in London he might attempt to save it, but in the circumstances it would be hopeless. Asked if he had come too late, the surgeon said "No." But in this, according to Boothby, he dissembled, as there were already strong symptoms of lockjaw, which did not disappear till many hours after amputation.

It was arranged that the operation should take place in the morning, and on Boothby asking if something could not be given him to ease his sufferings, which were scarcely endurable, the surgeon took a towel, and, soaking it in vinegar and

water, laid it on the wound, which gave considerable relief.

Fitzpatrick stayed with him till morning, changing the lotion at intervals. The account of the operation may be given in the patient's own words:

"Fitzpatrick and Miller of the Artillery, Higgins and Bell, staff surgeons, were the gentlemen who at 9 o'clock prepared to perform this serious operation upon me. Having laid out the necessary instruments they put a table in the middle of the room and placed on it a mattress. Then one of the surgeons came to me and exhorted me to summon my fortitude. I told him that he need not be afraid, and Fitzpatrick stopped him, saying he could answer for me. They then took me to the table and laid me on the mattress. Mr. Miller wished to place a handkerchief over my eyes, but I assured him that it was unnecessary—I would look another way. The tourniquet being adjusted, I saw that the knife was in Fitzpatrick's hand, which, being as I wished, I averted my head.

"As I do not choose to gratify the curious (at the expense of the feeling) reader, I shall not describe an operation the details of which are perhaps more shocking to reflect upon than to experience. But, as it is a common idea that the most painful part of an amputation lies in sundering the bone, I may rectify an error by declaring that the only part of the process in which the pain comes up to the natural anticipation is the first incision round the limb by which the skin is divided—the sensation of which is as if a prodigious weight were impelling the severing edge. The sawing of the bone gives no uneasy sensations, or if any, it is overpowered by others more violent."

"Is it off?" said I, as I felt it separate.

"Yes," said Fitzpatrick; "your sufferings are over."

"Ah, no; you have yet to take up the arteries."

"It will give you no pain," he said, kindly; and that was true—at least, after what I had undergone the pain seemed nothing.

"I was carried back to my bed free from pain, but much exhausted. The surgeons complimented me upon my firmness, and I felt gratified that I had gone through what lay before me without flinching or admitting a thought of cowardly despair. I desired that the amputated limb might be brought to me that I might examine the wound. The request was opposed with some force by the surgeons; but I persisted, and found a certain satisfaction in observing that the limb wore an appearance to the last degree mangled and hopeless. This moderated my tender sorrow at beholding for the last time that active and invaluable servant."

For some time after the operation the dangerous symptoms increased, his stomach refused sustenance, and a constant hiccough was recognized by the surgeons as a fatal prognostic.

In the night of the 30th he managed to retain some mulled wine strongly spiced, and in the morning he took two eggs. This was the turn;

his unfavorable symptoms subsided, "and the flowing stream of life began to replenish by degrees its almost deserted channels." So he continued to improve until August 3rd, when in the movement of the troops his friends had to leave him. Fitzpatrick stayed till the 4th. In the morning he promised to engage for Boothby the attendance of Higgins, who was left senior surgeon, but a rumor that the French were approaching spread a panic through the town, and Fitzpatrick appears to have left in a hurry.

The battle of Talavera resembled that of Glencoe, as the victors were afterwards obliged to retire and leave their wounded to a vanquished enemy. An order was given that the wounded in the hospitals who were able to move should set off instantly for Oropesa, as the French were at hand.

"The sensation this notice produced is beyond all description. I lay perfectly still. I had made up my mind that it would be better to fall into the enemy's hands than to attempt to go away. Other men in situations like my own had placed themselves across horses and mules, and fruitlessly attempted to escape. The road to Oropesa was covered with our poor, wounded, limping, bloodless soldiers. On crutches or sticks, with blankets thrown over them, they hobbled woefully along. For the moment panic terror lent them a force inconsistent with their debility, their fresh wounds, and their recent amputations. Some lay down on the road to take their last sleep. The rest, unable to get further than Oropesa, fell afterwards into the hands of the French when their troops entered that town."

Boothby admits that he was ill at ease, especially from the fear that the panic terror that had been communicated to the hospitals might extend to the surgeons, whose assistance, he says, was of more to him than any other consideration. The evening of the 4th, however, closed in quietness uninterrupted by the French, and Boothby had a visit from the senior medical officer, Mr. Higgins, which gave him great comfort, as the conversation of the surgeon taught him "to confide in his conduct."

Like a prudent man Boothby employed the interval of tranquility, short as it was, in laying in a stock of provisions. Mr. Stanniland, assistant surgeon of the artillery, said the French were coming, and Mr. Higgins had gone out to meet them. In about an hour Mr. Higgins came in and made the following announcement:

"I have been out of town above two leagues, and can see nothing of them. If, however, they do come, they will have every reason to treat us with attention; for they will find their own wounded lying amongst ours, provided with the same comforts, treated with the same care. I have been completely round myself to see that the treatment of their officers and men was in every respect upon the same footing as our own, so that they will have no possible pretext for complaint; and I can boldly claim their protection and respect. Whenever they come, I shall meet them

and solicit the General to visit the hospital with me."

When the French did come, on August 6th, Higgins rode out to the General who commanded the cavalry, and on making the representation he had preconceived, found the General full of the most noble sentiments. He said the fortune of war had thrown some Englishmen into the power of the French, who would be incapable of abusing it. He added:

"And as for you medical gentlemen who have been humane and manly enough not to desert your duty to your patients (many of whom are Frenchmen) in the hour of difficulty and distress, and have done us the honor to trust yourselves in our hands, not the smallest constraint will be put upon your motions. Stay amongst us as long as you please; go when you will. You are as free as the air you breathe. And whenever you think proper, our safe conduct and unfeigned thanks shall attend you to your countrymen."

Boothby adds the following glowing eulogium of the conduct of the devoted medical officer:

"We had afterwards reason to know how much we were indebted to this good beginning arranged by Mr. Higgins. Only their wish to support some appearance of consistency checked their natural disposition to ill-treat us. Throughout Mr. Higgins displayed the character of no common man. To be loaded with the charge of such groaning multitudes—almost wholly unprovided with medicines, medical stores, or provisions—would have been regarded by most medical men as a task of no common arduousness; and to perform it at the expense of personal liberty and all prospects of advancement was a case of peculiar hardship. But to prepare for the approaching crisis—determined to ride forth and parley with the enemy, and persuade him that he owes you respect, gratitude—this is the province of an officer of the first class; and Mr. Higgins in so acting—in adopting the duties of every station that happened to be vacant, in letting no office stop for want of an officer, but supplying the place of the absent and encouraging the present—discovered a manly superiority, a dauntless indifference to events that communicated confidence through every inferior branch, and secured to his suffering countrymen the blessings of a perfect medical attendance, and the protection and respect of their enemies."

"The artillery surgeon was unremitting in his attendance, meeting Mr. Higgins at my quarters invariably at 10 o'clock every morning, and their visit was usually repeated in the course of the day. As Mr. Higgins had of necessity intercourse with the French commanders, from him I heard all the news. His mind was of such a cheerful cast that it kept its tone amid all the difficulties and all extremities. Never did I receive from his presence other than consolation. Since the battle he had never taken off his clothes—seldom, indeed, had rested; was ever in want of what could never be procured; and yet no whining—no complaining—no giving up!"

On August 14th Boothby is able to announce that his stump is going on very well, and he hopes to be in Madrid in the course of two or three weeks. On August 25th he writes that his limb, after a good deal of struggling owing to a propensity in the muscles to retract, is now almost healed. The propensity here referred to required a tightness of bandage which made him suffer extremely, and broke his rest till he became accustomed to it. On October 1st he went out on crutches, attracting the notice of the French soldiers and of the Spaniards. The former invariably expressed surprise at seeing the success of an amputation which, in the hands of their field surgeons, they knew to be almost always fatal.

## REVIEWS.

*Progressive Medicine. A Quarterly of Advances in the Medical and Surgical Sciences.* Edited by HOBART AMORY HARE, M.D. Volume IV., December. Philadelphia and New York: Lea Bros. & Co., 1899.

THE present volume of "Progressive Medicine" is, if possible, of even more general interest than the preceding numbers.

In the chapter on diseases of the stomach the review of the recent literature of gastroptosis and of dilatation of the stomach, subjects which are every day becoming of more and more interest, is very fully discussed. Stren's method of recognizing the position of the stomach by means of the slight shadow seen upon the abdominal wall during the respiratory movement, when the stomach is somewhat distended, is the latest interesting development in this subject. The patient should be placed in about the same position with reference to the light as is necessary in observing the shadow cast by the diaphragm on the thoracic wall during respiration, the so-called Litten's phenomenon.

With regard to the treatment of gonorrhea, Dr. Belfield is of the opinion that it is more the method of irrigation than the use of permanganate which gives such good results in the Janet treatment. His experience with permanganate has been unsatisfactory. He has found, however, protargol, the substance introduced some two years ago by Neisser of Breslau, to be very useful.

In the chapter on orthopedics the review of the subject coxa vera, curvature of the neck of the femur, is especially complete and up to date. This disease has been, and is yet, the cause of a good many errors in the diagnosis of pathologic conditions about the hip-joint. Although the subject is considerably less than ten years old, its literature is very extensive. The practical points necessary for the recognition of the disease and the methods of treatment suitable for various types of cases are here discussed in a manner that cannot fail to be of great service to the busy practitioner.

The discussion under diseases of the kidneys of the etiology of uremia is an extremely interesting review of recent thought and experimental

work upon this subject. The principal fact brought out is that the blood-vessels in the brain, owing to the circumstance that they are not supported by firm surrounding tissues, are not so much under the influence of vasoconstrictor nerves as are the other peripheral vessels in the body. It is probable, therefore, that when all the other minute vessels are narrowed those of the brain, on the contrary, are dilated. This deprives of all value many of the present theories of the cause of uremia.

Under physiology an interesting observation is quoted from Jacques Loeb, who has proven by experiments that alkalis decidedly hasten the process of oxidation in animal tissues, and thus act as stimulants to their activity, while diluted acids have the opposite effect. He thinks the addition of small quantities of alkali would increase the beneficial effect of saline transfusion, and asks whether it would not be advisable to give alkalis in fevers to counteract the decrease in alkalinity of the blood.

In the chapter on hygiene some interesting statistics with regard to morbidity are quoted. In Michigan it has been found that most sickness is caused by rheumatism and neuralgia. Dr. Baker suggests that one of the reasons for the greater frequency of intestinal diseases in the summer time may be the fact that the toxic substances which cause peripheral disturbances like rheumatism and neuralgia in colder weather, may, in warmer weather, be able to affect unfavorably only the somewhat irritated mucous membrane of the intestinal tract.

In the practical therapeutic referendum at the end of this volume, Dr. F. O. Thornton gives a series of prescriptions that are applicable to various conditions, the details of which have been given in various parts of the present and the preceding volumes of "Progressive Medicine." Most of them are either newer combinations of old remedies, or are favorite prescriptions of new remedies, which have been found most useful in late years. It is unfortunate that the Latin in this section was not reviewed with a little more care. The barbarism *fiant in chartula* occurs a number of times, and this is by no means the only one that may be noted even on cursory reading.

## THERAPEUTIC HINTS.

**Treatment of Pruritus by Salicylate of Methyl.**—After successfully employing this remedy for the relief of pruritus, local and general, Leredde recommends the following pomade as the most serviceable means of application. Being of a thick consistency, it adheres closely to the skin. It is best adapted to the treatment of local pruritus and never causes irritation of the skin.

R̄ (Methyl. salicyl. .... 3 ss  
Zinci oxid.  
Vasellini.

M. Ft. unguentum. Sig. External use.